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JANUARY, 1931

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Abstracts of Unpublished Masters' Theses in the Field of Secondary-School Administration

Prepared by

FRANK C. TOUTON, University of Southern California

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(Theses completed and presented at the University of Southern California)

Prepared by

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BULLETIN NUMBER 34

All communications for secondary-school administration abstract service should be directed to H. V. Church, 3129 Wenonah Avenue, Berwyn, Illinois; J. Sterling Morton High School, Cicero, Illinois, Executive Secretary of the Department of Secondary-School Principals of the National Education Association.

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ABSTRACTS OF UNPUBLISHED MASTERS' THESES IN THE FIELD OF SECONDARY-SCHOOL ADMINISTRATION

(Theses completed and prepared at the University of Southern California)

At the invitation of Executive Secretary H. V. Church of the Department of Secondary-School Principals of the National Education Association, Professor Frank C. Touton has prepared abstracts for a selected group of masters' theses written in the School of Education at the University of Southern California. The theses selected report findings and conclusions of interest to secondary-school principals both because of the nature of the problems attacked and because of the materials and procedures employed. First drafts of abstracts were, for the most part, written by his Assistants in Research, then reviewed, checked, revised, and edited by Professor Touton.

The content of the studies reported through these abstracts covers a wide range of secondary-school problems and should point the way to complete or partial solutions of many of the real problems, situations, and difficulties which come to the attention of the secondary-school administrator.

ABSTRACTS OF UNPUBLISHED
MASTERS' THESES IN THE FIELD
OF SECONDARY SCHOOL ADMINISTRATION
(University of Southern California)

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ABSTRACTS OF UNPUBLISHED MASTERS' THESES IN THE FIELD OF SECONDARY SCHOOL ADMINISTRATION

PART I. DUTIES AND ACTIVITIES OF PRINCIPALS AND OF OTHER ADMINISTRATIVE AND SUPERVISORY OFFICERS IN SECONDARY SCHOOLS

1. Bouton, Christopher B. *An Analytical Study of the Duties of the Boys' Vice-Principals in the Secondary Schools of California.* June, 1929. Pp. 80.

Problem. This study attempts to determine the duties which are performed by the boys' vice-principals of secondary schools in California, and the approximate amount of time allotted to each; and from data compiled to formulate conclusions on the standardization of the duties of that position.

Materials and Procedure. In order to obtain the necessary information for this thesis, a questionnaire was sent to the boys' vice-principals of 158 secondary schools in California.

The first part of the questionnaire asked for definite information on specific administrative, supervisory, counseling, clerical, and community duties. The second part of the questionnaire inquired into the extent of teaching experiences, administrative work, and academic training.

Findings and Conclusions. The boys' vice-principals for both the junior and senior high schools average approximately nine hours per working day. This time is distributed as follows: administrative duties, 2.25 hours; supervisory duties, 2.75 hours; counseling duties, 1.75 hours; clerical duties, 2.00 hours; and community service, 0.25 hours.

There is a standardization of the duties of the majority of the vice-principals, but not of the time allotted to each. Time devoted to administrative duties varies from 20 hours to 472 hours per semester; supervisory duties from 20 to 800 hours per semester; counseling duties, from 10 to 660 hours per semester; clerical duties, from 10 to 540 hours per semester; and community service, from 0 to 153 hours per semester.

All of the cases studied allotted some time to administrative, counseling, and supervisory duties; consequently it was concluded that these are duties which are inherent to the office. Community service does not appear to be recognized as a common duty, while clerical duties are performed by the majority but not by all of the boys' vice-principals.

The number of class periods reported by the 37 boys' vice-principals who teach varied from 2 to 7 periods with an average of approximately 4 periods. A low positive correlation was found to exist between the number of periods devoted to teaching and the total school enrollment. The fact that the boys' vice-principal was engaged in teaching did not increase his total number of working hours, but decreased the amount of time devoted to the performance of his duties as a boys' vice-principal.

The number of working hours of the boys' vice-principal varied with the school in which he was working, but there seemed to be almost no relationship between the total school enrollment and the total number of working hours.

In comparing the Los Angeles City Schools with the other schools it was noted that about 4 per cent more time is given to both administrative and supervisory duties in the junior high school; approximately 8 per cent more time is devoted to clerical work in the senior high school than in the junior high school. This situation may have been caused by the fact that many of the senior high schools were small ones where sufficient office help was not supplied.

In comparing the Los Angeles City Schools with the other schools studied, the following observations were made: (1) administrative and supervisory duties consume practically 3 per cent more time each than in the other cases; (2) approximately 5 per cent more time is allotted to counseling activities than elsewhere; (3) about 6 per cent less time is spent on clerical duties in Los Angeles; and (4) community service is the same in both groups.

The duties of the boys' vice-principal are not regular from day to day. The duties assigned also vary with the school in which the boys' vice-principal is working. These duties cannot be segregated into a definite time schedule with any degree of accuracy. In fact, in some cases no record was kept of the time spent in the performance of the various duties. It was not, therefore, possible to standardize the amount of time which should be allotted to each function.

It would seem more feasible to attempt a standardization of the duties of the boys' vice-principal than of the amount of time allotted to each. Such standardization might be worked out on the basis of pupil enrollment, time allotted to teaching, type of school, and number of assistants.

The average number of years' teaching experience of the boys' vice-principals was found to be 7.3 years. A negligible correlation was apparent between the number of years' teaching experience of the boys'

vice-principal and the size of the school. The average number of years' experience in administrative work for the boys' vice-principal was found to be 7.8 years. The boys' vice-principals had an average of 5.3 years of training beyond high school. Only 3 per cent of the vice-principals considered did not hold a university degree, and in addition to a baccalaureate degree 44.8 per cent held an advanced degree.

2. Douglass, Robert H. *The Duties of Department Heads, Acting Heads, and Chairmen in Senior High Schools in California.* May, 1928. Pp. 142.

Problem. An analysis is made of the duties and activities of heads of departments as they relate (1) to the principal and school as a whole, (2) to departmental curriculum, (3) to departmental organization, (4) to improvement of instruction, and (5) to agencies outside the school.

Materials and Procedure. The study was undertaken after the manner of a "job analysis." A short check list was sent to a few department heads. Additions were made to the list by them, and a new list of 400 items was submitted by the writer to certain subject department heads in Los Angeles. Upon their advice the list was cut to some 200 items and divided into 5 main sections to cover the questions raised in the problem, and subdivisions were made under these main heads with from 2 to 5 choices indicated for the checking of each item. A generous response to the request for checked lists was received and tables were made from the returned lists. Discussion of these tables forms the body of the thesis.

Findings and Conclusions.

I. Relation to Administration: (1) Department heads contribute extensively to the formulation of general school policies through advice to the principal; (2) high school department heads assist in the development of school curricula, 40 per cent reporting service on such committees; (3) 78 per cent participate in schedule planning; (4) coördination of departments through correlation of subject matter is reported by 68 per cent, through development of uniform standards of supervision is reported by 42 per cent, and through development of standards of student achievement is reported by 48 per cent; (5) interest in the use of the school plant is indicated in that 44 per cent report assisting in planning new units, 62 per cent suggest remodeling needs, and 44 per cent report planning for the effective use of existing units, 62 per cent try to establish uniformity of policies throughout several departments; (7) 60 per cent attempt to keep the aims and objectives of the depart-

ment before the school as a whole through articles published in school papers; (8) extracurricular activities not directly related to the work of the department are participated in by 56 per cent through the principal's cabinet and by 62 per cent through student groups.

II. Relation to Departmental Curriculum: (1) 88 per cent participate in the selection of textbooks and materials of instruction; (2) in the adaptation of general courses of study to particular groups 48 per cent report experimentations, 68 per cent the correction of common errors, and 70 per cent the adjustment of materials to ability groups.

III. Relation to the Organization of the Department: (1) 62 per cent set subject matter policies; (2) 96 per cent attempt to adjust work to suit the teachers; (3) through bulletins 50 per cent and through personal interviews 90 per cent offer instruction to teachers concerning departmental organization; (4) regarding supplies 82 per cent are concerned with inventories, 72 per cent with budgets, 72 per cent with costs, and 80 per cent with distributing of materials; (5) 74 per cent have charge of the care of equipment; (6) all do clerical work though 32 per cent depend on the regular clerical help of the school; (7) 92 percent select department reference books for the aid of teachers and students; (8) 50 per cent foster extracurricular departmental activities; (9) conferences with individual students are reported for discipline by 70 per cent and for counseling by 56 per cent.

IV. Relation to Improvement of Instruction: (1) setting standards of student achievement through use of tests and statistical data; (2) improvement of instruction through experimentation, study of literature, intervisitation; (3) classification of students on ability basis by determining ability and making provision for frequent and easy adjustments; (4) assisting teachers to make effective use of materials; (5) visiting classes and consequent conferences with teachers; and (6) using rating schemes for purposes of improvement of instruction.

V. Relation to Agencies Outside the School: (1) the solution of problems of interest to parents was reported by 96 per cent; (2) participation in community enterprises, chiefly through speaking, 62 per cent; (3) welcome and direction of visitors, 88 per cent; (4) development of city courses of study, 64 per cent; (5) compiling of statistical data for boards of education, 62 per cent; (6) adjustment of high school subject matter with elementary or junior high school work and with college work was reported by 52 per cent of the heads replying.

3. Haitbrink, Winifred Neptune. *Methods of Solving Certain Problems Confronting the Dean of Girls in Secondary Schools.* April, 1928. Pp. 165.

Problem. The purpose of this investigation was to collect methods of solving certain problems of deans of girls in secondary schools. It was the endeavor of the writer to discover material bearing directly upon the ways of meeting situations which arise in the work of the dean of girls; to discuss modes of procedure with successful women in the position; and to pass along to others what experienced persons have written or said on the subject. The main objective of the investigation, however, was to provide a collection of methods for the performance of each of the main duties of deans of girls.

Materials and Procedure. A difficulty analysis, collection, and classification was made of the various types of problems which deans of girls must meet as found through personal experience of the writer, extensive reading of pertinent literature, and interviews with 28 deans of girls in secondary schools in Los Angeles and vicinity.

Findings and Conclusions. As a member of the administrative staff, the dean of women is found to be engaged in the following activities: studying the local situation through community surveys of occupations, future plans of pupils, types of homes of pupils, and places of amusement in district; working through Parent Teacher Association to bring the school and home in closer contact; cooperating with the attendance office by phoning or visiting homes of pupils; sponsoring extracurricular activities; teaching; relieving the principal of details such as fire drills, assembly programs, rehearsals, requisitions, supervision of lockers, or scholarship records; counseling and cooperating with the school counselor in the testing program or in the making of the schedules; cooperating with the school doctor.

As an adviser to girls the dean of women should be prepared for the following: understanding from experience and reading of scientific research the normal adolescent girl of today with reference to her physique, intellectual capacity, disposition, and emotional attitudes; identifying and understanding abnormal types of girls, such as feebleminded, psychoneurotic, pathological liar, kleptomaniac, dementia precox, epileptic, incorrigible, truant; giving educational guidance in choice of electives, arrangement of special schedules, selection of club activities, and reestablishment of the girl temporarily retarded through illness, enforced absence, transfer from another school, physical defects, misplacement, or mental incapacity; interviewing all girl failures on preparation, effort, health, interest, intelligence, difficulty of course of study, and teaching methods; giving vocational guidance through diagnosis of

pupil interests, information on occupations, and placement; and handling problem cases brought to attention by the teacher, doctor, mother, dean, probation officer, or by the girl herself. In this latter connection case histories kept in the dean's office are invaluable. The dean of women may be expected to engage in such social activities as welcome parties to incoming grades, homerooms, or other classes; traditional social functions; farewell parties to seniors and committees; entertainments, dances, games, and banquets; social affairs of teachers.

4. Kirkpatrick, W. Bruce. *An Analysis of the Professional Duties and Activities and Distribution of Time of the Boys' Vice-Principals of the Los Angeles Senior High Schools.* June, 1930. Pp. 192.

Problem. The chief purpose of the study was to make an analysis of the training, professional duties, and activities, and the distribution of working time of the boys' vice-principals in the Los Angeles senior high schools. An attempt has been made to define more accurately the work of this officer by pointing out the duties assumed by the majority of the group studied.

Materials and Procedure. Data were obtained from a check list sent to the vice-principal of each of the twenty senior high schools in the Los Angeles school system. These high schools include: ten three- or four-year institutions having more than 1,200 pupils and one having fewer than 1,200 pupils, and six six-year institutions having more than 1,200 pupils and three having fewer than 1,200 pupils. Returns were received from 100 per cent of the schools. The check list consisted of 105 items which included questions relative to training, experience, professional affiliations, and supervisional, administrative, and managerial duties, as well as miscellaneous duties pertaining to community interests and extracurricular activities. In addition to the check list, forms for the keeping of diaries for one week of actual time spent in various duties were sent to eight vice-principals, five of whom kept their diaries and returned the check lists.

Findings and Conclusions. In the opinion of the writer the data relative to the differences in training and experience of the vice-principals who replied are inconsequential in so far as their bearing upon the duties of these officers are concerned.

An examination of the duties of the boys' vice-principals in the three- or four-year high schools having either under or over 1,200 students, and in six-year high schools having either under or over 1,200 students, suggests that there is no clear distinction between work of such officers in these types of institutions. The variations in duties are probably due more to the student group and administrative organization of

each school than to the length of the program and the relationship to 1,200 enrollment.

Although the duties of the boys' vice-principals vary from school to school, there is a rather large group of duties which are common to the majority of these administrators and form the core around which the work of the office is built. As duties related to the supervision of instruction, 80 per cent of the vice-principals reported participate in occasional classroom visitation and teacher conferences; 70 per cent supervise certain specified departments either Mechanic Arts or Boys' Physical Education; 65 per cent adjust courses and programs of boys; 90 per cent assist the principal in determining the curriculum; and 65 per cent assist in making the master program. In work related to pupil control, 100 per cent of the vice-principals discipline boys; 70 per cent suspend pupils for disciplinary reasons; 95 per cent grant transfers and discharges to boys; 100 per cent communicate with parents regarding scholarship and conduct of boys; 65 per cent grant excuses for tardiness or absence occasionally but not regularly; 50 per cent approve lunch passes and permits to leave the grounds; 60 per cent approve or disapprove requests for programs other than normal; and 55 per cent supervise traffic in the halls. In the general management of the school, the majority of boys' vice-principals inspect the plant occasionally but are not responsible for regular inspection; 100 per cent approve the admission of visitors and hear complaints of parents; 90 per cent arrange assemblies occasionally but not regularly; and 50 per cent formulate plans for the making of the pupils' permanent programs and for the opening and closing of the semester's work. In the work of teacher management, 75 per cent of these officers cooperate with the principal in the selection of members of the teaching staff and 70 per cent cooperate in the rating of teachers. Of these vice-principals, 65 per cent have no clerical duties involving reports and statistics. In carrying on of professional activities, 50 per cent of these administrators attend regularly the meetings of the City Secondary Principals' Association and 65 per cent serve on one or more committees of this organization, also 70 per cent serve on committees composed exclusively of vice-principals. In the supervision of extra-curricular activities, 100 per cent of the vice-principals have complete jurisdiction and supervision of boys' athletics; 85 per cent attend all major sports contests; 90 per cent regularly attend meetings for the formulation of athletic policies; the same percentage are responsible for the checking and certification of the eligibility of athletes; and 70 per cent are responsible for all student rallies. Only 50 per cent of vice-principals either regularly or occasionally attend meetings of chambers of commerce or of service clubs.

The data returned on the diaries kept for one week by each of five

vice-principals showed that they worked an average of 45.5 hours per week and devoted 43 per cent of this time to pupil control; 12 per cent to clerical duties; 11 per cent to professional meetings; 11 per cent to extracurricular activities; and the remainder of the time in various small amounts to general management, teacher control, supervision of instruction, community interests, and other duties.

5. McNeely, John Gracey. *The Administrative and Supervisory Activities of Junior High School Principals and Assistant Principals in California.* June, 1928. Pp. 88.

Problem. The study is made of the status of junior high school principals and assistant principals in California with special reference to the following items: (1) qualifications and chief activities of principals and assistant principals, (2) time given to improvement of instruction and direction of professional growth of teachers under their charge, (3) relation between time spent on learning activities and other activities in the school, (4) reasonable time standards for principals and assistant principals to observe.

Methods and Procedure. Data were secured through questionnaires sent to 100 junior high school principals in California. The questionnaires were sent only to three-year unit schools. There were 67 returns, 8 partially filled out, and 59 completely filled out. The results of the 59 complete returns were used in this study. Recognition of previous work in the field was given to such authors as Cubberly, Briggs, Johnson, and Morrison; and their contributions were used to guide the attack on the problems of this study.

Findings and Conclusions. The questionnaire replies seemed to indicate that academic qualifications of California principals and assistant principals in junior high schools are reasonably high. The majority of principals held Master's degrees; and but five held less than a Bachelor's degree, these five having Normal School certificates or Bachelor of Pedagogy degrees. The assistant principals were not so well qualified. Ten of that group held their positions with the Bachelor of Pedagogy degree, and the majority of the assistant principals held no higher than the Bachelor of Arts degree. The total number of years of experience credited to each administrator varied from 0 to 30 years, with approximately 9 years as the average time spent in teaching before reaching an administrative position.

Questions with regard to time spent each week in various activities give the following major divisions of the principal's time: inspection of buildings and grounds, 2.5 hours or 5.5 per cent; supervision of instruction, 6 hours or 11 per cent; supervision of activities of the school

outside of the classroom such as cafeteria, bookstore, athletics, and social affairs, 3.5 hours or 8 per cent; routine office work, 8 hours or 18 per cent; interviewing pupils, 4 hours or 9 per cent; interviewing callers, 3 hours or 7 per cent; discipline, 3.5 hours or 8 per cent; conferences with assistants, counselors, and heads of departments, 2 hours or 5 per cent; conferences with teachers, 4 hours or 9 per cent; outside school activities, 4 hours or 9 per cent; matters which should be delegated to others, 3.5 hours or 8 per cent of the total time. The principals reported from 38 to 65 hours as the total time spent on work in the school building each week.

The assistant principals reported the following activities with the approximate time devoted each week: making of school programs, 4 hours or 9.7 per cent; adjusting student programs, 3 hours or 7 per cent; issuing various kinds of permits to pupils, 3.3 hours or 8 per cent; checking attendance, 5 hours or 12 per cent; making reports, 2.1 hours or 5 per cent; supervision of study halls, 3 hours or 7 per cent; helping teachers with their problems of discipline, etc., 6.5 hours or 16 per cent; advising girls, 4.5 hours or 10.7 per cent; advising boys, 3.3 hours or 8 per cent; conferences with parents, 3.5 hours or 9 per cent; conference with pupils regarding various school and personal problems, 4.3 hours or 9.4 per cent of the total time.

Educational writers, in general, rank the duties of the principals in the following order: (1) administrative, (2) supervisory, (3) community leadership. The results of this study indicate that administrative duties rank first, clerical, second, and supervisory third for both principals and assistant principals.

In the judgment of the writer, a scientific procedure for the evaluation of supervision is necessary in order that administrators may choose the most worthwhile activities on which to spend their time. Problems of teacher training, curriculum building, and subject matter revision must be part of the principal's job. Disciplinary problems should consume but little time. Community contacts are necessary for the best interests of the school, but time given to them should not be excessive. Clerical duties should be delegated to others whose time is less valuable and whose training makes them able to handle these duties efficiently.

6. Risser, J. Ray. *Some of the Qualities of a Teacher Which are Predictive of Administrative Success.* June, 1929. Pp. 106.

Problem. The problem of this thesis was to determine those factors significant for selection of successful administrators from successful teachers.

Materials and Procedure. The thesis was treated in two parts: (1) the successful teachers, and (2) the successful administrator. In attempting to solve this problem, three techniques were used: (1) historical research, (2) personal interviews, and (3) the questionnaire method. Historical research aided greatly in helping to build up the list of qualities of successful teachers and administrators of the past.

The first five qualities, sympathy, character, understanding, tact, and justice, and the last five qualities, force, speech, voice, perseverance, and self-criticism will tend to indicate the tendency in rating the teacher qualities.

A questionnaire was sent to 210 teachers for the rating of the qualities of the successful teacher. A table was drawn up with a composite evaluation of these qualities of teacher personality. The reliability of the scores and of the mean was worked out for each quality. Tables were worked out giving the relative values of each quality.

After analyzing and classifying the duties and qualifications of principals and administrators, it was found that most of the duties fell under two main divisions: administrative and supervisory. Under these two heads the author found from case study and research that the outstanding successful principal was that person who most satisfactorily handled those human contacts of pupils, teachers, and parents. A list of teacher duties and qualifications which are comparable to the duties of a successful administrator were drawn up. This list was changed to a considerable extent after many personal interviews with superintendents and principals. The final list arranged and classified, was sent to 220 superintendents, principals of senior high, of junior high, and of elementary schools for evaluation on a five point scale: (1) superior, (2) above average, (3) average, (4) below average, and (5) inferior or of little value. One hundred three administrators returned their blanks in time for this study. The results were tabulated for each group, showing the rating, spread, and average importance of each quality listed. A composite chart and table was made for the entire group.

Findings and Conclusions. The first five qualities for administrative success as they were evaluated by 103 administrators were: (1) being fair and impartial in all relations to pupils and teachers, (2) winning and holding the confidence of pupils and teachers, (3) meeting the general public successfully, (4) good organization of his work, and (5) keeping in mind that he is molding character and personality. The last five qualities were: type of previous administrative experience, broadened education, successful committee work, subject field qualification, and length of administrative experience.

There are many factors which bring success to a teacher. The objectively measured factors taken separately have little significance. Adequate preparation is, of course, necessary; but the manner in which this preparation is used is the determinant of success or failure. This difference may be called the human factor, or teacher personality. Although teachers do not agree about the relative value of these qualities concerning success, all of them may be considered fairly important. Sympathy, character, and understanding are outstanding.

A certain required preparation is necessary for all successful administrators, but the personal contacts of the principal with the pupil, teacher, parent, and public are exceedingly important to the success of the principal. There must be a definite, adequate equipment of preparation, training, and experience as a foundation for success; but this is only the foundation for the structure that is built upon it. The masterpiece of the builder of boys and girls comes only from the effective use of this foundation.

All the qualities listed must be considered of graduated importance and are significant for any teacher to study who is seeking administrative promotion.

The ability to inspire others to accomplish and grow and to administer the duties of principal in relation to pupils, teachers, parents, and public, in a manner that will correct, rather than antagonize; that will increase confidence, rather than lessen it; and that will raise the plans of education, the type of citizenship, the spirit of the school;—these are the marks to be looked for in the teacher which will predict administrative success.

7. Stanley, Mark M. *The Preparation for the Administration of the Opening of a Senior High School Each Year.* June, 1930. Pp. 143.

Problem. The study undertakes to discover how the principal can best organize his school in order that pupil registration can be carried out most efficiently and classroom procedures begin as soon after the opening of school as possible. The ideals that we may assume to be criteria for judging the efficiency of organization are: the assurance that the child has been able to secure the class that best meets his needs; that the time so used is the shortest possible; that the entire teaching, office, and administrative forces be functioning to their full capacity; and that there be a logical sequence in registration to avoid confusion.

Materials and Procedure. The procedures outlined are based on the responses of a questionnaire sent to all high schools in the state of California with an enrollment of 500 or more, and to 60 large out-of-

California high schools. Replies were received from 48 per cent of the California high schools and 52 per cent of out-of-California institutions. The questionnaire requested information concerning the procedures used with respect to: size of school, semester schedule making, faculty selection, planning of the high school course of studies, transcripts, tests, registration, textbooks, records, assignment of lockers, student organizations, reception of parents and visitors, and the functions of the principal.

The procedures in use in the various high schools were analyzed statistically and on the basis of these findings two suggested organizations, one beginning registration in the spring and one beginning registration in the fall were outlined. Greatest frequency of use was considered the measure of best procedure.

Findings. The study of registration plans received leads to the acceptance of the following as typical of best practice: Where registration is to begin in the spring certain preparations are made. The calendar for the ensuing year is determined and the probable enrollment estimated. Information and registration blanks are sent to all schools contributing freshmen. The blanks include space for the listing of the courses requested and approved by teachers and parents. Pupils already in the high school list subjects requested for the following year on a printed card during a homeroom period. Heads of departments make out a tentative program for each department on the basis of these data, then in conference with the administrative staff the proposed schedule of classes is worked out.

The day prior to spring registration homeroom teachers instruct pupils in procedures. Pupils are also supplied with a copy of the school paper on the day of registration which contains full instructions. At two o'clock on the day of registration, which is two weeks before the close of school, students are dismissed to proceed with registration. Lists of classes limited to 25 students, are made up at this time by the teacher. Students go to the room assigned as the headquarters for the particular subjects in which they are interested, taking with them their present program cards. There each pupil is assigned to his subject, grade, room, and time of recitation of the requested class. Students must complete their programs before leaving the building and bring the program card back to school the next day signed by the parent.

After registration day the teacher checks requested program cards with the program suggested by the guidance officer and notes any disagreements, thus necessary changes can be made.

During the summer, registration materials and publicity are prepared. Failures are checked and required changes made in programs. Lockers are assigned as well as assembly seats. On the week prior to the opening of school, a teachers meeting is held at which specific instructions are given in the mechanics of enrollment, schedules, and in general all necessary information pertaining to the school.

On the opening day, a copy of instructions for period-to-period observance is given to each student and teacher. These instructions direct the pupils to assigned stations where they will find their program cards as made out in the spring and revised. At the end of 25 minutes, the first period class bell rings, stations are closed and classes begin. At the end of the first period, stations are again opened and cards may be secured by those who have not previously obtained them. At the beginning of the second period, all uncalled for cards are returned to the office. Each period-teacher during the day admits to her classes only students who are already on the class list, reporting other students who attend and absentees to the office at the end of the period. The second period teacher has a 45 minute period and hands blank enrollment cards to each student who then fills them out. She checks these cards with the spring enrollment cards and signs the student's program card and checks his name on her class list. The school handbook is handed to the pupil at this time, and he writes his program into it. Enrollment and program cards not obtained during this period are secured at the office. No student is accepted in classes the rest of the day without his program card. During the fifth period the teacher checks the student's program to make sure that it is acceptable. The sixth period teacher collects all signed programs and hands them in to the office that evening. Heads of departments and vice-principals meet in the late afternoon to make any necessary changes in the schedule.

On the second day of school the regular schedule begins. Books are issued during class periods. Locker assignments, made during the summer, are reported to pupils and the keys distributed by the teacher, who collects the deposit for keys. Keys not given out during the day are returned to the office.

On subsequent days heads of departments are available for changes of student programs. The administrative office takes care of late enrollments.

It will be noticed that no mention is made of psychological tests in the above program. The results of the questionnaire revealed that generally little or no attempt is made to classify students according to ability.

Tests appear to be used only in the guidance program. Since this is the case, they have been omitted during registration as they can be given later with much less confusion.

Where registration is wholly carried out in the fall, a modified plan is suggested but it is not outlined here.

8. Tibby, Ardella Bitner. *Some Problems of a Dean of Women in a Junior College.* June, 1929. Pp. 127.

Problem. The problem of this study included: (1) determination of the function and duties of a dean of women; and (2) methods of performing some of the major duties of a dean of women, such as organizing the office, supervising social activities, acting as a counselor in a guidance program, or serving as assistant administration officer.

Materials and Procedure. The study included a survey of the literature relating to the subject, personal interviews with deans of women, and questionnaires. From reading and from preliminary interviews, a difficulty analysis of the problems of deans was made. They were reduced to those which belonged to the situation of the author as Dean of Women of Compton Junior College. Methods of performing the tasks were collected and recorded. No attempt was made at evaluation; the purpose was to record what experienced deans had contributed.

Findings and Conclusions. The duties of a dean of women are classified usually as administrative, social, advisory, and miscellaneous. These overlap. Nearly every dean teaches, plans social programs, supervises dormitories, and does personnel work. The emphasis she places on each is determined to a great extent by her educational thinking and philosophy. Her chief objective is to see that all worthy educational aims function in the lives of individual students.

To qualify professionally, she must have sufficient training to inspire students in scholarship, and yet she should not lack interest in human beings. She should have not less than an M.A. degree; a Ph.D. degree is desirable. She should be a specialist in some field. She should be a clear thinker, sympathetic, imaginative, a good leader, sincere, and honest. Other qualities are: attractive appearance, dignity, flexibility, youth—spiritually if not chronologically.

The dean's office should be near other administrative offices. Desirable features are privacy, a touch of femininity. Routine should be handled by secretarial help. Adequate record cards should be devised.

The social program should be supervised by having all applications for functions go through the office of the dean of women. Some general suggestions are: see that guests are invited in time; vary events; keep expense reasonable, see that correct social usage is the rule. Deans may teach correct social usage in freshman orientation classes or by group or individual instruction.

The dean of women should help students in matters of personal adjustment through giving the unsocial girl responsibility, discovering and developing her interests, getting help from other students, and when necessary consulting a psychologist for remedies. In matters of discipline she should get help from parents, women's self government, house mothers, administration, and student council.

Financial help may be administered through agencies in school and out. Extravagance should be curbed.

The relation of the dean of women to the health program is usually that of coördinator. She sees that health and physical education departments are properly staffed, that undue emphasis is not placed on athletics, that health subjects are included in the curriculum, and that a positive constructive attitude towards health is maintained.

The dean of women may encourage scholarship by her own example, by providing that all agencies of the institution encourage scholarship—teachers, house mothers, and sororities. She may promote honor-scholarship activities, and may provide for further study of students in higher institutions through public or private agencies.

A personnel organization is not general in a junior college. Such coördination as exists, for the women at least, is directed by the dean of women. She may have the services of a placement bureau, access to the records of the various departments, health records or results of tests from the psychology department, or registration data from the business office. She gets help from faculty members, student organizations, orientation classes. Two kinds of information must be given the student to help her make vocational decisions. She should not be ticketed or labeled or over-advised. Due consideration should be given to her interests. The following sources are used for information about the students' capacity: intelligence tests, ability tests, trade tests, school grades, teachers' opinion, the opinion of some friend. Occupational information may be had from reading, work in the field, the occupation in other localities, vocational conferences. More than one vocation should be investigated. There are probably more vocations than one for each.

PART II. STUDIES OF ABILITIES AND DISABILITIES OF SECONDARY SCHOOL PUPILS

9. Albright, Beatrice F. *Typical Reading Disabilities of College Entrants.* May 1927. Pp. 100.

Problem. The purpose of this study is to classify the disabilities experienced by 1053 college entrants as illustrated in the errors made in the section of the Thorndike Intelligence Examination, Form P, devoted to reading comprehension, and to determine the frequency with which each disability appears in order to ascertain the major cause for failure to comprehend the thought of the printed page.

Materials and Procedure. Disabilities here considered appeared in a study of examination booklets to which reference is made above. The test in reading comprehension formed a part of the examination given to entering freshmen at the University of Southern California during the academic year 1926-1927. The errors in these examinations were recorded, analyzed, and classified.

Findings and Conclusions. Of the total number of responses required of the 1053 college entrants, 31.4 per cent were errors, 41.0 per cent were correct, and the remaining 27.6 per cent were omitted. Possible scores on each student's paper range from plus 144 to a negative quantity. The scores made by these 1053 college entrants on the examination ranged from 112 to 5½ with a mean score of 53.5 and a median score 52.7. The middle 80 per cent of the cases fell between the scores of 36 and 81. Thus it is seen that, after having eliminated the upper and lower 10 per cents, certain students within this group made scores approximately two and one-fourth times as great as others.

The following table exhibits the kind and frequency of reading disabilities revealed by an analysis of the errors in examinations dealt with this study:

Statement of the error	Number of errors noted	Per cent of all errors
1. Inability to associate the related elements of the context (in cases where the question is relatively easy to comprehend)	8,915	37.5
A. Failure to make correct associations due to the limit of life experiences, real or vicarious	1,479	6.2
B. Failure to make correct associations due to meagerness of vocabulary either of		
1. words in common use, or	1,095	4.6
2. technical words	734	3.1
C. Failure to make correct associations due to the occurrence of words frequently or emphatically used in other situations	297	1.2
D. Failure to neglect irrelevant material	1,426	6.0

Statement of error	Number of errors noted	Per cent of all errors
E. Failure to note the tense of the verb, thereby failing to differentiate correctly between present and past	1,013	4.3
F. Inability to deduce a specific answer from a general idea from a series of related ideas	2,871	12.1
2. Inability to isolate the elements of an involved statement in context read	5,603	23.6
A. Inability to isolate the essential idea or element, giving instead general items taken from the sentence, the paragraph, or the questions	1,810	7.6
B. Failure to note the potency of restrictive phrases or clauses	710	3.0
C. Failure to note or list all the elements of a thought or statement	3,083	13.0
3. Failure to grasp or retain from given explanations the ideas essential to the understanding of concepts presented later.	5,064	21.3
4. Failure to see the setting of the context as a whole	2,032	8.6
A. Inability to select the title of the paragraph	1,765	7.5
B. Failure to judge correctly of materials preceding or following the paragraph	267	1.1
5. Inability fully to understand the question	1,785	7.5
A. Failure to understand the meaning of words used in the question, either	16	0.7
1. words in common use, or	6	
2. technical words	10	
B. Failure to note the significant or qualifying word, phrase, or clause in the stated question or instruction	1,264	5.3
C. Failure to interpret the question in relation to its context material	337	1.6
D. Failure to follow specific directions	128	0.5
6. Irrelevant responses: careless, irrational, or impossible answers possibly due to peculiar individual experiences	361	1.5

10. Borst, Richard W. *Abilities of California High School Seniors in Handwriting, Descriptive Composition, and the Writing of Narrative Social Letters.* January, 1926. Pp. 84.

Problem. The purpose of this study is to make an analysis and a summary of three English abilities of high school seniors.

Materials and Procedure. In all 415 handwriting specimens, 371 descriptive compositions, and 413 social letters were studied, all of this material being the work of senior students in 8 representative high schools in California. The handwriting specimens were scored by means of the Ayres Handwriting Scale, and the results were compared with

norms set by Ayres for pupils in grades two to eight, inclusive. The social letters were scored by means of the Lewis Social Letter Scale, for which norms are not yet established. The descriptive compositions were scored by means of the Van Wagenen Descriptive Composition Scale; for this work also norms are not available.

Findings and Conclusions. Whereas the eighth-grade median hand writing score established by Ayres is 62, the median score for the eight high schools is 53.2, slightly below that of the sixth-grade pupils studied in establishing the Ayres norm. The lower 10 per cent of these seniors of all eight high schools have a score not exceeding 36.6, which is below the score of the second-grade pupils studied by Ayres; the upper ten per cent of these seniors of all eight high schools is above the norm for eighth-graders. The lower 25 per cent of these seniors have a score not exceeding 43.6, which is slightly better than the norm of the third grade; the upper 25 per cent, however, being above the eighth-grade norm. Out of the 415 California seniors, 104 reach the approximate score of eighth-grade pupils. The middle 80 per cent vary in ability from a score below normal for second-graders to a score decidedly above normal for the eighth grade; while the middle 50 per cent of all California students studied have abilities varying in extent from below normal for the fourth grade to above normal for the eighth grade.

Owing to the fact that standards have not been determined and published which show the relative achievement of normal groups of pupils enrolled in classes studying description in each of the several school grades, it is not possible here to contrast the results obtained in California with previously established norms for any school grade; the same remark applies also to the work in social letter writing. The composite scores of 371 high school seniors in descriptive composition show a range from 40 to 90, the best score being two and one quarter times as large as the worst. Even for the middle 80 per cent, the range remains from 60 to 80. For the California high school seniors studied the median score on the Van Wagenen Descriptive Composition Scale was 69.2; S. D., 7.6.

The composite scores of 413 high school seniors in social letter writing show a range from 45 to 95, the best score being slightly more than twice as large as the lowest score. The range of the middle 80 per cent is from 57 to 81. For these high school seniors the median score or norm on the Lewis Social Letter Scale was 69.2; S.D., 5.7.

11. Breckheimer, Peter J. *The Kind and Frequency of Typical Errors in Written French.* April, 1927. Pp. 100.

Problem. This error study determines which grammatical errors

occur most frequently in student exercises in a four-year course in French, either in free composition (the expression of one's own thoughts on a given subject in theme form) or in prose composition (the translation of set sentences from English into French).

Materials and Procedure. The papers in free composition were selected as follows: 250 compositions from first year French were written at the beginning of their third term of study by students in five senior high schools in Los Angeles; 250 compositions in second year, 250 in third year, and 250 in fourth year French were written by students in 45 high schools of the state of New York in a State Regents' Examination of June, 1926, except that some of the fourth year papers were written in the examination of January, 1926. The 750 students in New York State whose papers were chosen had all passed the examination, while the presence of the Los Angeles students in a third semester group evidences that they had passed first year French successfully. There were thus examined 1000 compositions, aggregating 131,958 words, the compositions ranging in individual length from 35 to 355 words.

The prose compositions examined are the work of 500 French students in the high schools of New York City in the Regents' Examination of January, 1926, 200 being in second year, 200 in third year, and 100 in fourth year French.

The errors in these exercises are grouped and classified, their distribution, frequency, and rank, and percentages of error determined for each year; and the persistency of error noted, giving rise to suggestions as to items important for drill.

Findings and Conclusions. The important error groups, judging from frequency of error, are for both free and prose composition, spelling, agreement, vocabulary, verb, preposition, gender, article, and pronoun; less important errors, constituting 1 per cent or less of the total number of mistakes, are position of adjective, position of adverb, contractions, confusion of parts of speech, omission of dependent conjunction, and negation. The purely grammatical error groups, agreement, verb, preposition, article, and pronoun, constitute 49 per cent of the total number of errors in both free and prose composition, while the non-grammatical error groups, spelling, vocabulary, and gender, comprise 47 per cent of the errors in free composition and 46 per cent of the errors in prose composition.

Students make approximately 5 per cent more errors in prose than in free composition, due no doubt to the fact that they can dodge their difficulties in the latter type work. In free composition, the first year

student makes approximately 1 mistake for every 5 words written, the second year student 1 mistake for every 10 words, the third year student 1 mistake for every 12 words, and the fourth year student 1 for every 13 words. In prose composition, the second year student makes approximately 1 mistake for every 6 words; the third year student, 1 for every 7 words; and the fourth year student, 1 for every 8 words. Thus, during the last three years, the student averages 1 mistake for every 11 words in free composition, and 1 mistake for every 7 words in prose composition. Practically all errors found in the first year prose were found also in the fourth year, showing an amazing persistence of error in the most elementary constructions.

Although every type of error in free composition persists throughout the 4 years, there is no noteworthy increase in frequency; the greatest improvement, or the least persistence of error, is shown in spelling, agreement, and vocabulary error groups. Nearly half the errors of spelling were due to incorrect accents, or omissions of accents or the cedilla. The frequency of vocabulary errors is of course much higher in prose than in free composition.

Verb errors would rank first in the purely grammatical errors, were it not for the fact that errors in agreement are listed elsewhere. The indiscriminate and inconsistent use of tenses shows a lack of feeling for the time element and an ignorance of the five most commonly used tenses; 24 per cent of the errors in free composition, and 40 per cent of those in prose composition arose from this one source. Of all the verb errors, 11 per cent were mistakes in mode, of which half in free composition and five eighths in prose composition consisted of the use of the indicative for the subjunctive. The subjunctive mode used correctly in an adjective or adverbial clause and the correct translation of a conditional sentence are alike very rare.

Little improvement from year to year is evident in the use of prepositions; errors in gender are sixth in rank; 5 per cent of all errors are pronoun errors, those in personal and relative pronouns being most frequent; mistakes in the position of adjectives consist usually in placing the adjective before instead of after the noun.

Inability to distinguish between direct and indirect objects, whether noun or pronoun, persists throughout the 4 years of French, as do also the use of a preposition for a dependent conjunction, and the interchange of adverb and adjective.

The following items in French grammar are suggested, in the light of the findings of this study, for intensive and systematic drill: accuracy in the use of accents and cedilla; the spelling, among others, of plusieurs,

campagne, intéressant; agreement of adjectives with nouns, of verbs and of predicate adjectives with subject; past participle agreement; the avoidance of literal translation of English idiom; the government of the most commonly used verbs, and the uses of the most commonly used tenses; the forms and uses of conditional and subjunctive; the verbs conjugated with être; some of the more important rules of gender; the use of the definite article in the partitive construction; forms of relative pronouns; the distinction between direct and indirect objects; the position of adverbs with the infinitive and in compound tenses.

12. Bridge, Laura B. *Major Factors Conditioning Success of High School Seniors Before Graduation.* June 1929. Pp. 94.

Problem. In this study a group of 100 students was followed through high school in an effort to determine the purposes and underlying ambitions of the entering students; the influence of changes of courses, with consequent waste of time, failures, subject drop-outs, and elimination from school; and extent of loss of time and energy resulting from situations which could be remedied.

Materials and Procedure. Surveys were made of the 400 9-B entrants and of the 100 of this group who remained to graduate. These two surveys included intelligence levels, age distribution, nationality, and economic status.

The study traced the history of the group of 100 seniors to determine the purposes of the entering group and what lay behind these ambitions, the factors which contributed to the successful completion or deterred the carrying out of these ambitions, the loss involved by the changes of courses, and the need for curriculum revision.

Following are the various sources of materials used: (1) the cumulative official school record card on file in the registrar's office; (2) registration records of minors; (3) program of student when entering ninth grade; (4) cards indicating changes of program; (5) application blank of 9-B entrant; (6) intelligence quotients on Terman group test and Otis individual test; (7) students' scores in the Stanford-Achievement Reading Test and in the Stanford-Achievement Mathematics Test; (8) personal trait rating card; (9) attendance register; (10) results on American Council of Education test; and (11) questionnaires.

Findings and Conclusions. Taking into consideration the admitted limitations of the study, the data seem to justify the following deductions: (1) the student body of a modern metropolitan high school shows a wide variation in mental ability, reading achievement, nation-

ality, economic status, and age; (2) the large percentage of those who enter high school at an early age, and who remain in school, when compared with those entering at a later age, and leaving school, shows that our curriculum is fairly well adjusted to the former group, but not to the latter; (3) other evidences of maladjustment are the frequent changes of program, which many times involves change of course; (4) the facts show that the choice of course is based on what the pupil thinks is his own decision, or in many cases on his parents' selection or the advice of his friends, which choice often proves to be unwise; (5) the changes of program constitute a serious loss of pupil and teacher time during which the pupil should be gaining valuable adaptations; (6) a survey of the results of the American Council of Education tests given to the seniors shows that there are serious shortages, involving, especially, English and arithmetic, in adaptations achieved by those who have remained in high school.

The curriculum should meet certain basic needs towards which the foregoing facts point: it should provide for a wider range of individual differences; have flexibility to facilitate individual adjustment; deal with material which challenges the interest of the adult-minded student, who is, however, capable of mastering only simple processes; challenge the interest and promote original activities of the gifted child; and provide for training to build up shortages of students, so that upon graduation each student will have a sure hold on certain tools which he will need in his life as a useful citizen.

There is a necessity for an adequate program of individual educational guidance to enable the students to make the maximum use of his school experience.

13. Dryden, Jonathan H. *A Study of General Information of College Entrants.* May, 1928. Pp. 101.

Problem. The study makes an analysis of the general information possessed by college freshmen as revealed by certain sections of the Thorndike Intelligence Examination for High School Graduates.

Materials and Procedure. The data of the study are the responses of 738 entering freshmen at the University of Southern California in the fall of 1927. These materials include: 10 multiple response questions of a general nature, 10 questions to be answered in a single word or phrase pertaining to various trade informations, and 60 true-false questions taken from a wide range of high school courses. The study does not attempt to prove that students' scores on these sections of the examination are a valid measure of general information or that the

materials have diagnostic value. The study is an attempt to show the general information actually possessed as revealed by the responses to the questions and statements found in this particular Thorndike Intelligence Examination. The questions were grouped together according to high school curricular subjects and an analysis made of the amount and accuracy of information possessed by men and women.

Findings. A comparison of the responses to questions in the several groupings reveals the following percentages of correct responses of possible responses: mathematical information, men 47, women 21; scientific information, men 34, women 34; literary information, men 39, women 39; historical information, men 29, women 38; information in civics, men 30, women 30; geographical information, men 47, women 37; economics and business training information, men 23, women 28; musical information, men 35, women 43; and information pertaining to shop mechanics, men 34, women 7. To the entire group of questions and statements requiring a mastery of the several curricular subjects the men made 36 per cent of correct responses and the women made 29 per cent of correct responses. If, however, the questions dealing with information on the details of shop mechanics are omitted, of which the women show a decided lack of information, the difference of correct responses between men and women is negligible.

Students are correct in their information almost twice as often as they are incorrect, but no responses were made to nearly half the questions.

The women seem to be more specific in their information than the men. Their superior information is confined to certain subjects to the exclusion of others. The information possessed by the men is spread over a wider field. The field in which the greatest amount of correct information possessed by the men seems to be the factual and scientific, while that in which the women possess the greatest amount of information is the emotional and cultural fields.

14. Heilman, Karl Kenneth. *Achievements of California High School Seniors in Reading Comprehension, Vocabulary, and Spelling.* June, 1926. Pp. 182.

Problem. Previous researches have shown wide variability in individual attainment in reading comprehension of pupils in each of the several grades, and in the average attainment in reading comprehension of all members in a given grade in different high schools. Such variability suggested that this important aspect of attainment in English should be considered (a) as to its claim for a place in the curriculum, (b) as to

the degree to which this ability is attained by the graduates of California secondary schools, and (c) as to the means which may be employed in making a real mastery of the printed non-technical page an attainable goal for high school graduates.

Materials and Procedure. The materials included 1,137 tests,—360 Thorndike-McCall Scales of Reading Comprehension, 360 Inglis Vocabulary Tests of word meaning, and 417 Seven S Spelling Scales. These tests were given under the immediate supervision of Mr. A. C. Olney, Commissioner of Secondary Schools in California, and provided for this study by the California State Board of Education from a selected list of the 12 H pupils in 8 high schools in the State of California.

In the study, mean and median achievements were ascertained for each school and for a composite of all the schools; these measures were compared with the standard norms for the grade and contrasted with each other. Percentages of pupils surpassing the standard norms were also obtained, and variabilities within groups and among the several groups were determined. Finally, the relationship between the several elements considered was determined and an interpretation given.

Findings and Suggestions. In Reading Comprehension, the study shows that in one school considered, the mean score exceeds the standard norm, and in 7 of the schools considered, the mean scores for 12 H pupils are below T-Score norm for their grade (68.1). Further the study indicates that the mean retardation in 7 schools varies from 2 to 5 grades (years). Of the entire group of pupils considered, only 34 per cent exceed the norm for their grade; the remainder of the group (66 per cent) vary in retardation from 1 to 9 years, the mean retardation being 4 years. For the composite group, the mean retardation was 2 years, while the acceleration for the 34 per cent above the norm was 1 month to 2 1/3 years. The above findings show an "Inferior" achievement in reading comprehension in all except one school, which indicates that there is need for remedial work in reading comprehension in the California secondary schools.

In vocabulary achievement the data show that 7 of the 8 schools considered as indicated by median scores, are above the standard norm (58.0). The other school shows a mean achievement equal to that of 11 L pupils; while the composite group median shows an achievement well above the norm for this grade, practically a full year. In only one school is remedial work in the English vocabulary suggested.

In spelling achievement, the data show that the median scores of the pupils in 5 to 8 schools considered are above the standard norm for their grade, (72.1), varying from slightly above to well above the norm.

The median score for one of the 3 schools below the norm is just slightly below that norm, while the other two are approximately one grade retarded as shown by mean scores. While one school shows 52 per cent to be below the norm, in no school does remedial work in spelling show itself to be especially necessary, as all of the other schools show from 58 to 86.6 per cent of the pupils tested to be above the norm for their grade. The composite group shows a mean score in spelling achievement (75.2) well above the norm (72.1) and shows 64 per cent of the pupils in the group to surpass the grade standard.

From the above it appears that the California 12 H pupils considered as a group surpass the group of pupils used in establishing the norm for the Seven S spelling scales in spelling achievement.

The data reveal a moderately high correlation (0.65 *r* 0.03) between knowledge of the meaning of words and an ability to secure the meaning from the printed page, a very high correlation (0.88) between a knowledge of the meaning of words and an ability to spell words correctly, and a moderate correlation between an ability to spell words correctly and the ability to secure the correct meaning from the printed page.

Tests in the several phases of English achievement might well be given to all pupils entering the high school, thus diagnosing the several achievements possessed, and thereby revealing the several abilities and disabilities in time to give the necessary remedial treatment.

15. Horning, Floy M. *A Diagnostic Study of Difficulties in Reading Comprehension.* May, 1927. Pp. 78.

Problem. This study attempts to determine the types of errors college entrants make in reading, as illustrated by those made in the section of the Thorndike Intelligence Examination for High School Graduates, Form S, devoted to reading comprehension; in addition, the study determines the comparative frequency of the different types of errors in order to ascertain the major causes of the lack of ability to comprehend the printed page.

Materials and Procedure. A total of 738 papers, Form S, Part III, of the Thorndike examination were scrutinized. The questions on this form are all of the multiple response type, and a reason was found why any of the answers should be checked, if it was checked; if, for instance, possible answer 1 had been checked in response to question 1 of test 1, the study would have failed to see the setting of the contribution as a whole, and this would have been assigned as the cause of the failure to respond correctly. The total number of errors noted was 20,003. A typical-error list was made, and a quantitative study undertaken, to determine the number of times each error occurred.

Findings and Conclusions. The types of errors made by college entrants in the Thorndike Intelligence Examination Forms, part III, listed according to frequency of occurrence are found to be the following: inability to isolate the several elements of an involved statement, 29.1 per cent; inability to grasp the full meaning of the question as stated, 21.9 per cent; inability to select the best one from among several possible answers, 17 per cent; inability to associate related elements, 14.6 per cent; inability to follow a thread of thought through a maze of detail, 11.7 per cent; failure to grasp from given explanations the significance of concepts essential to the understanding of the context presented later, 3.5 per cent; careless, irrational, or impossible answers, due possibly to some peculiar individual experience, 1.5 per cent.

Interpreted in terms of student need and instructor opportunity, it will be seen that the student must be trained to isolate, select, associate, follow up, and then verify ideas or thought elements; the student must be trained to determine which ideas are important; he should be given practice in thinking over the question as stated in order to grasp its full meaning and comprehend its significance; he should learn to pick out the essentials and isolate the important ideas; he should be trained to associate elements that belong together and to neglect material that does not serve his purpose; and he should be given practice in looking for the full explanation of the author, learning to get complete thoughts with all their significance.

16. Mann, Rubie. *The Need of Junior High School Pupils for Stronger Elementary Bonds in Arithmetic.* June, 1929. Pp. 80.

Problem. Much evidence seems to indicate that junior high school pupils do not possess a thorough foundation in the four fundamental processes of arithmetic. The aim of this study was to ascertain to what extent a group of pupils finishing the seventh grade had complete mastery of the fundamental bonds or combinations. Such a survey would indicate whether or not it is necessary to incorporate further drill of this kind in the junior high school course of study in mathematics.

Materials and Procedure. Approximately 240 pupils finishing the seventh grade in the John Muir High School of Los Angeles, California, were tested in giving automatic response to the more difficult half of the 400 possible combinations in the 4 processes.

The tester, having practiced saying the combinations at a uniform rate, presented them orally to the pupils. Two seconds were allowed for the pupils to write each response. A time limit was necessary to indicate the automaticity of each bond.

Other studies similarly conducted for the purpose of determining the relative difficulty of the combinations were reviewed. The principal ones were those of Holloway, Clapp, Knight-Behrens, and Washburne.

Findings and Conclusions. Tabulations of times each particular bond was wrong or omitted indicated that some of the combinations were much better known than others. The number of times that a combination was wrong or omitted ranged from none to 107.

When the combinations were arranged in order of difficulty as indicated by the number of times each was found wrong or omitted, in general, those that involved 8 or 9 were lowest in the scale of automaticity. Large numbers added to small ones caused more errors than small numbers added to large ones. In multiplication and division, the combinations involving zero cause the greatest number of errors.

Comparing the number of errors in each of the 4 processes, addition contributed 16.2 per cent of the total number of errors committed or answers omitted; multiplication, 22.5 per cent; division, 26.9 per cent; and subtraction, 34.1 per cent.

This 7-A group had not attained anything like mastery of the 182 combinations used in making this survey. The per cent of errors of the total possible number of errors in addition was 9.4 per cent; in subtraction, 19.5 per cent; in multiplication, 16.3 per cent; in division 18.5 per cent; and in a composite of all processes, 15.8 per cent.

Two per cent of the 7-A group indicated complete mastery in all 4 processes. Approximately ¼ of the group knew the addition combinations perfectly, while the proportion who had mastered the combinations in the other processes ranged from 8.5 per cent in subtraction, 9.0 per cent in multiplication, to 9.7 per cent in division.

The Pearson product moment formula for computing the coefficient of correlation was used to compare each process with each of the other processes. Since the coefficients of correlation obtained were not high enough to be significant, it cannot be assumed that mastery of the combinations in one process predicts mastery in another.

Very little relationship existed between mastery of the fundamental combinations and intelligence as measured by the Terman Group Test of Mental Ability. The coefficient of correlations between a composite score on all 182 combinations in the 4 processes and the intelligence quotients of 220 pupils was found to be .21-.04. The inference is that practically all pupils who would be found in a public junior high school are capable of mastering the combinations if given sufficient drill.

A comparison of composite scores obtained on the city tests covering the outlined course of study showed a correlation coefficient of .52-.05. The deduction made is that mastery of the combinations has some influence upon the city test scores.

Inasmuch as junior high school pupils finishing the 7-A grade have failed to master the simple fundamental facts of the 4 processes, the conclusion is that more drill must be given in the junior high school. It is also recommended that the elementary grades further simplify the course of study in arithmetic so that the children can master 1200 fundamental combinations while they are still at an age that does find drill work interesting. Since individual diagnosis and remedial work have been found to yield returns in many experiments, such procedure would seem to be the first step toward an attempt to set higher standards of accuracy and to promote ideals of exact thinking among junior high school pupils.

17. Noble, M. Lorain. *The Mathematical Abilities of 738 Freshmen.* May, 1926. Pp. 91.

Problem. This study deals with errors of high school graduates in the fundamental relationships of elementary mathematics, especially those errors made in the fundamental operations; and attempts to determine to what extent contact with high school mathematics affects the success in mathematics on the entrance examination to the university, and in mathematics during the first semester of academic work in college.

Materials and Procedure. In the fall semester of 1925-1926, 738 college entrants at the University of Southern California took the Thorndike Intelligence Examination, New Series. This examination contains 4 tests in mathematics: algebraic problems, fundamental operations, arithmetic problems, and number relationships. For each of the 738 entrants, the following information was available: number of units and number of recommended units of high school mathematics; scores made in the mathematics sections and the total score made on the entire examination; the grade of those who took mathematics in the university for the first semester of academic work in mathematics.

Findings and Conclusions. Common errors in algebra in the order of their frequency were found to be the following: incorrect manipulation in raising an expressed product to a power; unknowns found in terms of unknowns in solving simultaneous equations; incorrect reduction of the least common denominator; incorrect manipulation of constant terms in solving for unknowns in simultaneous equations; in-

correct procedures with signs; failure to factor; in the addition of similar terms, failure to add coefficients; inaccuracy as to the use of fractions.

Errors in arithmetic in the order of their frequency include the following: incomplete problem analysis; a fractional part of one per cent treated as that fractional part of a unit; incorrect computation in addition and subtraction; decimal point incorrectly placed; confusion of the operations to be used; failure to use the symbols and numbers required; failure to understand that in the comparison of two numbers, the first must be divided by the second.

Men tend to continue their mathematical experience through three or four years of high school while the women tend to take only two units of mathematics in high school.

Over three fourths of the freshmen taking mathematics in the first semester of academic work had taken three or more units of high school mathematics, showing a tendency for the continuation of the subject only with an extensive high school background. Of the students taking mathematics in the first semester, almost half placed in the highest fifth of mathematics scores on the entrance examination, and almost all placed in the third fifth or above; almost all, moreover, have more recommended than non-recommended units in high school mathematics, showing a tendency for students with aptitude and high pre-college record in mathematics to go on with the subject.

A significant relationship appears between having three or four units of high school mathematics and placing in the higher groups in the mathematics sections of the entrance examination.

A significant relationship appears between recommended units in high school mathematics and placement in the upper fifths in the mathematics sections of the entrance examination.

A low positive correlation appears between entering college with more recommended than non-recommended units in mathematics and receiving a high grade in mathematics for the first semester of the academic work in mathematics in college.

A significant and high relationship is found to exist between high placement on the entire entrance examination and high grades in mathematics in the first semester in college, as also between high total score on the entire entrance examination and success in mathematics.

18. Potter, Walter H. *A Junior-Senior High School Language Error Test.* February, 1926. Pp. 181.

Problem. This study is an attempt to improve the written examination in English by presenting a standardized achievement test designed to

measure accomplishment in the mechanics of written expression, and to indicate for this phase of English the needs of the individual pupil, the class, the school, or the school system.

Materials and Procedure. From the findings of previous studies of language errors 64 types of the most common errors that have been found to be both widely prevalent and persistent, were selected as suitable and necessary for the test. These errors may be grouped as follows: sentence structure, 16; grammar, 16; diction, 3; organization, 1; punctuation, 19; and miscellaneous, 9. The 64 errors were woven into the content of a 500 word paragraph. Two forms of the test were made. The pupil's task was to detect and correct the errors. The process was then repeated with a different context in order to have an alternative form of the test.

The test was uniformly administered to some 6,000 secondary school pupils in 6 Los Angeles high schools enrolled in grades 7 to 12. The students tested in each half grade are non-identical, but care was taken to obtain normal samplings in each group. Where homogeneous grouping existed, normal samplings were made on this basis. As the test was constructed and administered it was subjected to such test criteria as validity, accuracy, discrimination, objectivity, reliability, and economy.

Findings and Conclusions. Norms were set up based on the actual mean achievement of a normal sampling of approximately 200 pupils in each half grade, 7 to 12 inclusive. The mean achievement of pupils varied progressively from 16.4 per cent of possible corrections in the low seventh grade to 54.7 per cent of possible corrections in the high twelfth grade. The mean achievement of pupils at different age levels was found to vary progressively from 23.3 per cent of the possible corrections, for 12 year olds to 47.1 per cent of possible corrections for 18 year olds. From representative age norms, language and quotients of pupils can be derived. By means of such subject ages an administrator can learn whether or not pupils are being retarded chronologically in order to give an appearance of efficiency in relation to grade standards. Again, by means of the subject quotient, which is found by dividing the subject age by the chronological age, he can ascertain whether or not pupils have average, superior, or inferior ability in the subject.

The reliability of the test was established by correlating the results in each half-grade when the two forms of the test were given to pupils on the same day and under the same conditions. The reliability coefficients range from 0.74 with a probable error of 0.03 found in the high twelfth grade to 0.85 with a probable error of 0.02 found in the high eleventh grade.

The results of the several errors on 200 papers of one form of the test from each half-grade when statistically analyzed reveal that gains are made in the number of acceptable corrections throughout the several grades of the secondary school with the exception of the low eighth, in which improvement seems to be at a standstill.

Wide differences in ability of pupils in written English are clearly shown. The highest 10 per cent of pupils in grade 8 equal or excel in this phase of English the lowest 10 per cent of the pupils in the high twelfth grade. Ten per cent of seniors graduate with an equipment in written language equal or inferior to the average of low tenth grade pupils. Approximately 25 per cent of the high twelfth pupils fail to attain the average score of high tenth grade pupils.

Definite statement of objectives in the course of study seems to be an important factor in raising achievement towards attaining those objectives in the grades for which they are stated. Definite grade objectives were stated in the Los Angeles course of study requiring the mastery of the correct constructions for only 33 of the 64 errors included in the test. For 23 of these errors the number of acceptable corrections is greater in the grades in which their elimination is stated as definite objectives than in any other grades. Failure to state an objective appears to be in some cases disastrous. The elimination of the error of the dangling participle is not stated as an objective for any grade of the secondary school. For this reason, probably, achievement in the correction of this error throughout the grades is found to be very low.

The findings suggest certain remedial procedures. Since the average gain in the total number of corrections made throughout the six years of the secondary school was found to be only 29 per cent, and since in the high twelfth grade only 54.7 per cent of the possible corrections made, it is believed that the general application of Morrison's "Mastery formula"; i. e. "Pre-test, teach, test the result, adapt procedure, teach and test again to the point of actual learning," would be productive of more satisfactory results. All specific errors that are found to have a correction mean below that of the correction mean of the total group of error should be the object of a vigorous attack. Definite objectives should be stated for each half-grade since errors are not general but specific. After a construction has been thoroughly studied, and its mastery by the pupils proved by the use of standardized tests, it should be taken for granted in the succeeding grades, that it has been learned; and any violation of such construction should be heavily penalized. Sentence structure and punctuation, it seems, should be consistently treated together. An examination of the data showed that a gain in the number of acceptable corrections for one was accompanied by a like gain for the

other. Achievement in paragraphing, diction, sentence structure, and punctuation was found to be below the composite correction mean in all grades. A vigorous and scientific attack should therefore be made on these types of errors.

19. Terry, Esther J. *A Diagnostic Study of Types of Mathematical Errors Made by High School Graduates.* May, 1925. Pp. 96.

Problem. The problem of the thesis is to make a diagnostic study of college entrants as shown by a critical analysis of errors made on a college entrance test.

Materials and Procedure. The study is based on the answers to the parts of the Thorndike Intelligence Examination for High School Graduates pertaining to mathematics of 504 entering freshmen at the University of Southern California in the fall of 1923-24. The mathematical problems consisted of simple mensuration, fundamental operations involving fractions and decimals, simple arithmetical problems, the completion of number series, and the solution of algebraic equations. The papers were carefully examined, and the various errors classified and analyzed.

Findings. In problems involving denominate numbers and fundamental operations, 9.8 per cent of the errors were due to failure to attempt to reduce denominate numbers to the usual form; 8.7 per cent were due to failure in making this reduction correctly; 11.3 per cent were due to failure to reduce proper fractions to lowest terms; 8.8 per cent were due to failure to reduce improper fractions to mixed numbers; 6.2 per cent were due to incorrect subtraction of integers; 4.8 per cent were due to incorrect addition of integers; and the same percentage of errors were due to incorrect addition of fractions; while the remaining errors were due to miscellaneous causes.

In the solution of arithmetical problems, 35.4 per cent of the errors were due to lack of complete problem analysis; 19.3 per cent were due to incorrect computation; 16.2 per cent were due to the setting up of incorrect relationships between the elements of the problem; 7.6 per cent were due to the use of the incorrect arithmetical process; while the remainder of errors were of unknown cause or for miscellaneous reasons.

In problems involving number series completion, 51 per cent of the errors were due to failure to apply correctly the principle when determined; 17 per cent were of unknown origin; and 3.6 per cent were due to failure to comprehend the instructions.

In problems involving algebraic manipulations, 13 per cent of the errors were due to addition of numbers in an expressed product where

multiplication signs were omitted but implied; 11.3 per cent were due to incorrect procedure with the coefficients of the unknown; 10 per cent were due to failure to separate knowns a and b, and unknown x, in solving for x; 8 per cent were due to incorrect procedure with signs; 7.7 per cent were due to incorrect procedure with fractions; 6.5 per cent were due to inability to plan the solution so as to obtain the values of unknown; 5.7 per cent were due to failure to find the product of unknown x and y after each had been correctly found; the remaining errors each accounting for fewer than 5 per cent of total errors were due to incorrect changing to the least common denominator, incomplete or partial substitution, incorrect computation, incorrect removal of parenthesis, incorrect removal of terms, one value for unknown in a quadratic equation, incorrect arithmetical process, incorrect cancellation, and miscellaneous errors.

The results of the present study emphasize inability in the specific operation tested, and relegate to a minor position, errors due to faulty computation. In problem solving, number series, and algebra tests the errors of greatest frequency are not computation errors, but are errors caused by faulty habits of thought. Loose habits of thinking such as "lack of problem analysis" occur because these high school graduates attack an exercise in mathematics before they have the conditions or essential factors of the exercise clearly in mind, and before they have formulated a definite plan of procedure for the solution of the exercise. Likewise, errors such as the addition of numbers in an algebraic product are due to the fact that these high school graduates have not clearly distinguished this one essential element in literal representation, namely, that of representing multiplication with the omission of the multiplication sign between two symbols of quantity. The types of errors set forth in the study should be valuable aids as guides by means of which the teacher can direct her instruction so that incorrect habits may be broken insofar as possible. Other studies indicate that accuracy in numerical computation may be increased by frequent, short, intensive drills, while errors due to faulty thought habits need extensive applications of appropriate teaching methods.

20. Webb, Paul Edward. *An Experimental Study of Geometric Abilities among Boys and Girls of Equal Mental Ability.* January, 1925. Pp. 79.

Problem. This study attempts to determine to what extent boys and girls of approximately equal mental ability, as measured by some standard intelligence test, differ in their geometric abilities. In the absence of a satisfactory testing device to measure the various abilities involved in the general term, geometric ability, the additional problem is

taken up of forming and validating a reliable objective test for the purpose.

Materials and Procedure. Two comparable forms of a geometry test were devised; their reliability coefficients ranged from 0.83 to 0.91 when the two forms were taken by the same individuals in an aggregate number of 779 cases. Correlation coefficients between test scores and teachers' markings and between test scores and the Scholling-Sanford Test range from 0.69 to 0.89.

These tests were given to approximately 1000 pupils just completing an average course in plane geometry in several large high schools of southern California. Intelligence quotients from the Terman Group Intelligence Test were available for all pupils considered in this study and were used to calculate mental ages of all pupils at the time of taking the test.

Findings and Conclusions. The following conclusions are drawn from the study:

The geometry test is a reliable measure of geometric ability.

When boys and girls are considered as composing two groups without reference to mental ability, test scores show 59 per cent (Form A of the test) and 57 per cent (Form B of the test) of the boys excelling the median girl; but when boys and girls are considered as forming groups classified according to mental age a doubtful superiority goes to the girls in the highest mental age group and a lack of evidence appears in support of the superiority for either sex in the middle mental age group (16 years 6 months to 17 years 5 months.)

At the lower mental-age levels the superiority of the boys over the girls seems to be the most marked. It is at these levels that the highest per cent of boys exceeds the median girl, and it is also at these levels at which the significance of the differences in the mean scores of boys and girls is the greatest.

In solving the construction exercise, the boys show a greater superiority over the girls than they show in any other exercises (60 per cent of the boys excel the median girl in Form A, 64 per cent in Form B).

The differences in geometric achievement between boys and girls at different mental-age levels tend to show that those studies of sex differences which neglect to take into account the factor of mental ability fail to discover significant differences which exist at one mental-age level but not at another. This study, for example, tends to indicate that girls having mental ages over 18 years 6 months not only do work in geometry

much superior to the work of the girls in the next lower mental-age group, but they seem also to excel the boys of equal mental ability; whereas boys having mental ages under 16 years 6 months are superior in geometric ability to girls of equal mental ability. There is here a clear indication that future studies in sex differences should take into account mental differences.

The study shows that in geometric ability girls are more variable than are boys.

21. Welch, Ralph W. *Spelling Errors of Certain California High School Seniors.* May, 1928. Pp. 83.

Problem. The problem of this thesis was three-fold: (1) to determine and classify the types of spelling errors made by certain California high school seniors in a standardized spelling test; (2) to make an intensive study of the types of errors made by such pupils in order to determine, if possible, the causes of the errors and to suggest remedial treatment; and (3) to determine the difference, if any, in spelling ability and types of errors of boys and girls.

Materials and Procedure. A survey was made of the significant related investigations as reported in books, educational magazines, and Masters' and Doctors' dissertations. With such information in hand, a study was made of 8197 words as misspelled by 417 high school seniors in eight California high schools on the Seven S Spelling Scale, which scale tests the spelling ability on 80 English words. Spelling errors were classified and distributed according to types; a study of the individual words was made to determine the probable causes of errors, the number of errors, and the degree of difficulty of each; and remedial suggestions were made in accordance with the findings of the above investigations.

Findings and Conclusions. Though not a major consideration in this thesis, the study shows that the norm for the Seven S Spelling Scale for the composite group of high school seniors is 75.2, which is just slightly higher than the norm for the test as found by its author (72.1). Out of a total 33,360 words which were attempted, there were 8,197 misspelled words and 8,273 spelling errors. The principal types of errors belong to the group for "confused endings." These errors constituted 27.8 per cent of the total. Other prominent types of errors were of the group due to silent letters (22.1 per cent), and of the group caused by the doubling and non-doubling of letters (15.4 per cent). Other types of errors include the group of "confused alternatives," which constituted 10.7 per cent of the total; the "unclassified" group,

8.3 per cent; the "omission of letters sounded" group, 6.8 per cent; "complications," 3.4 per cent; "unattempted or incomplete" group, 2.7 per cent; "inversions" group, 2.2 per cent; and "slips" group, 0.7 per cent.

The girls whose spelling abilities were measured in this study have a higher mean spelling ability in this test than the boys. The average grade for the girls is 76.3 per cent, and for the boys, 72.5 per cent. The composite average is 75.2 per cent, while the norm for 12 H. pupils as established is 72.5 per cent.

A knowledge and application of spelling rules on the part of the pupils would not have prevented more than 2 per cent of all the errors recorded in this study. This situation is largely due to the fact that there are practically no spelling rules that can be applied to the words of this test. An intensive study of the literature on spelling indicates that some of the main causes for making the errors are as follows: poor hearing; foreign home influence; improper syllabication and poor articulation; carelessness or inaccurate observation and auditory perception; temporary physical and mental conditions such as emotional disturbances or nervous instability; short auditory memory; tendency to spell phonetically or in the simplest way possible; lack of general intelligence; motor awkwardness and incoördination; unfamiliarity with the word; lack of good teaching in spelling.

From an analysis of the spelling errors examined in this investigation in combination with a search of the literature on the teaching of spelling, this study indicates that the mastery of a few suggestions upon the problem of improving one's spelling ability would have greatly lessened the number of errors recorded in this test. Following are some suggestions:

(1) Spelling rules should be used sparingly, since there are many exceptions to be learned.

(2) Listen attentively to the pronunciation, and avoid slovenly pronunciation.

(3) Ability to write the word correctly should be the final purpose.

(4) Know the meaning of the word to be spelled.

(5) Do not rely on any form of the word grouping (sound, look, meaning, etc.).

(6) Write the word while pronouncing it, syllable by syllable. Visualize it. If you fail, look at the word again. Write it again and compare with the original. If correct, cover it up and write it several

times, always looking at the word closely and pronouncing the syllables to yourself.

(7) If the word is difficult, put it in a group for further review and try it again the next day.

PART III. PUPIL DIFFERENCES AND CURRICULUM ADJUSTMENTS

22. Adams, Mrs. Fay Green. *Curricular Enrichments in Secondary Education.* June, 1929. Pp. 88.

Problem. This study attempted to analyze the need for special attention for the superior pupil, as well as to indicate the trends in the educational procedure and program, and to suggest means of enriching the curricula for the superior pupil.

Materials and Procedure. Materials were collected from three sources: (1) teachers of rapid-group pupils were interviewed with the idea of determining the special methods and materials they used to enrich the work for these pupils; (2) supervisors and curriculum builders were questioned to find how the curriculum and teaching methods were being adapted to the superior children; and (3) reviews were made of those books and studies which deal especially with the problem of adapting the curriculum, teaching methods, and subject matter, to rapid groups.

Findings and Conclusions. Considerable interest has been manifested in recent years concerning the characteristics of the superior pupils. In many cases the characteristics of the bright children have been appraised rather than determined by objective studies. Many writers, however, agree that the following are some of the mental, physical, and emotional qualities that usually characterize bright children: (1) high degree of general intelligence; (2) remarkable powers of analysis and of general reasoning ability; (3) a longer span of attention than the average and dull children; (4) an outstanding degree of originality, resourcefulness, initiative, play of imagination, and ability to interpret abstract ideas; (5) power to relate thought, illustrations, and answers to life situations; (6) natural, aggressive interest in most subjects; (7) ability that is general and not special or one sided; (8) tendency to be small for their grade, but large for their age; (9) tendency to be stronger and healthier than average and dull children; (10) marked superiority in moral and personal traits; (11) interest in social activities and a tendency to choose companions of their own mental age; (12) desire for leadership; (13) nervous stability above the average; (14) tendency to resent corporal punishment more than the average child of the same chronological

age; and (15) reasonable and easy response to discipline with kindness and tact.

In general there are two views concerning the adaptation of the curriculum to meet the needs of the bright pupils. Some educators believe that the bright children, since they are capable of greater achievement, should be allowed to finish the requirements of the curriculum at a greater speed and go on to higher types of training in university or college. The long, specialized training necessary for the bright pupils who are to enter the professions and other intellectual pursuits is given as a reason why it should be desirable to save the time of the rapid-group pupils. Another group suggests that enrichment of educational experience, rather than acceleration, is a better plan. This plan provides for enrichment of content rather than simply additional quantities of work. Enrichment must be of a kind that will result in work done on a higher level of achievement, work which gives the brighter students an opportunity to use their creative ability and originality.

The following principles are offered to help guide the contacts of teachers with their bright students: (1) The educational experience provided should be particularly well balanced; (2) The creative resources should be thoroughly developed; (3) Every attempt should be made to build up a rich associative background; (4) A positive program of character training should provide reasoned as well as emotionalized ethical standards; (5) A thoroughly socialized viewpoint should be developed to counteract a tendency toward egoism; and (6) particular emphasis should be placed upon play activities which will result in physical capital for future years of intellectual productivity.

The teacher should keep in mind the above fundamental principles for the teaching of superior pupils and apply them to specific teaching methods and situations. There is no one teaching method by which superior students should be taught, but the socialized procedure and the development of projects and problems have found a wide use in rapid groups. Although drill should be minimized, it cannot be entirely eliminated. Perhaps the solution of this problem is to make drill an interesting activity rather than a dull routine. Teachers should not make the mistake of assuming that superior pupils are all of the same kind, and provide for them accordingly. The various individual differences can be provided for by differentiated assignments or plans for directing study. The aim of the teacher and of the secondary school should be to provide situations in which the students with superior ability can express their originality, initiative, and creative ability. Thus the bright pupils will develop their inherent abilities to their own satisfaction and to the profit of the nation.

23. Elliott, Raymond Morgan. *The Relative Influences of Chronological Age and Mental Age upon the Achievement of High School Boys and Girls.* June, 1930. Pp. 240.

Problem. The purpose of this study is to discover the amount of chronological and mental acceleration and retardation existing in a representative California high school, and to determine the relative influences of age and mentality upon high school achievement.

Materials and Procedure. This is a study of 466 students of the Huntington Beach Union High School, as to their chronological age, mental age, and school achievement. For 299 of these students, elementary school records were also available. Mental age was determined by the Terman Group Test of Mental Ability; these tests had been given each spring to prospective elementary school graduates within the local high school district, and in the early fall to students transferring to the district from other high school districts; mental ages so found were calculated as of September, 1928, and the students were classified for the purposes of this study into three groups, accelerated, normal, and retarded. Chronological ages were also taken as of this date, and the students were divided into the corresponding three groups, thus giving rise to nine groups on the combined bases of chronological and mental ages. School achievement was measured by teachers' marks for the first quarter of the school year 1928-29. The usual criticisms against the validity of such a criterion are largely inapplicable in this instance, because of the general use made at Huntington Beach of objective or new type examinations; in addition, the progress of classes, both during and at the end of the year, is measured by standardized tests.

Findings and Conclusions. A large amount of acceleration and retardation was found, both mental and chronological, in the several classes and between the sexes. Chronological retardation was greater among boys than among girls; mental retardation was greater among the girls than among the boys. There is noted here, too, the tendency for the retention in school of more girls than boys at the lower mental age levels.

The relation of chronological age and achievement appears in the following findings: members of the honor scholarship society included 31 per cent of the chronological accelerated students, 9.7 per cent of the normal age group, and 0.9 per cent of the chronologically retarded. Failing grades in one or more school subjects were assigned to 31 per cent of the accelerated, 25.7 per cent of the normal, and 52.5 per cent of the chronologically retarded group.

The relation of mental age and achievement is involved in the following findings: membership in the honor scholarship society included

18.5 per cent of the mentally accelerated group, 6.3 per cent of the normal, and 51.1 per cent of the retarded group. It was noted that 100 per cent of the students who are both chronologically and mentally under age failed during the quarter considered in at least one of their subjects. The coefficients of correlation between school achievement and mental age were 0.37 for the accelerated, 0.24 for the normal, and 0.28 for the mentally retarded group. These coefficients of correlations, when the chronological age is held constant by the partial correlation technique, become 0.54 for the accelerated, 0.27 for the normal, and 0.27 also for the retarded group.

In most of the comparisons studied, there appears to be a marked advantage in school achievement in favor of the normal-age groups, mentally and chronologically. It appears that the school is more especially designed for the greatest good of these groups.

The relative influences of chronological age and mental age upon high school achievement are expressed by the respective coefficients in the regression equation A=0.070 M.A. + 0.046 C.A. + 4.1 in which A represents achievement in grade points, M.A. mental age in months, and C.A. chronological age in months. The coefficient of multiple correlation is, however, only 0.41, which is but 9 per cent better than a pure chance arrangement.

When the elementary school rating is added to the above factors, the regression equation becomes

$$A = 0.010 \text{ M.A.} + 0.025 \text{ C.A.} + 0.82 \text{ E.R.} - 2.86$$

The elementary school rating is seen to be weighted 33 times as heavily as the chronological age and 80 times as heavily as the mental age. The multiple correlation coefficient is $0.66 + 0.12$; this is a statistically satisfactory value for group prediction purposes. Approximately the same multiple correlation coefficient appears when the related quantities are the intelligence quotient and the elementary school rating; the prediction equation in the score form is here

$$A = 0.05 \text{ I.Q.} + 0.57 \text{ E.R.} - 0.10$$

and this equation is obviously an easier one to apply. Here it appears that the elementary school rating should be weighed more than the I.Q. in the prediction of school achievement.

24. Henderson, Cora Rebecca. *Methods of Individualizing Instruction in a Mixed Group.* June, 1929. Pp. 179.

Problem. The individualization of instruction requires that traditional subject-matter shall be continuously readjusted to the varied

periods of development and the changing interests of pupils. To make possible such an adjustment, a wealth of methods and supplementary materials needs to be collected and made available for all classroom teachers. This study purposes to help in making such a collection.

Procedure and Materials. The procedure consisted of three steps: (1) the making of a difficulty analysis; (2) the finding and recording of methods; and (3) the writing of the finished results.

The first step in the difficulty analysis procedure was to read widely the thoughts of educational authorities on the individualization of instruction and record findings in terms of sources for methods, names of publishing houses, educational authorities, and references to other articles likely to prove helpful. Difficulties found were grouped into clear main-heads and logical sub-heads for the purpose of research.

The search for methods consisted in finding solutions to the difficulties, through reviewing books, periodicals, lesson sheets, and courses of study, and through interviewing 31 classroom teachers in the senior and junior high schools of Southern California. Interviews were from one-half to two and one-fourth hours in length and averaged 73 minutes. Interviews were rewritten and the methods collected from all the above-mentioned sources and properly filed.

Findings and Conclusions. To determine individual differences, (1) intelligence tests and standardized tests are impractical; (2) teachers rely upon diagnostic tests, unit mastery, personal conferences, the questionnaire, notes on oral, written, or group-blackboard work, and personal conduct.

To differentiate the course of study, teachers use (1) individual texts or several texts; (2) mimeographed or loose-leaf card assignments; (3) self-instructive games, drill books, oak-tag charts, job-books, dictionaries, and pictures; and (4) voluntary assignments for literature, themes, collaterals, and all projects.

To plan class procedure, teachers use (1) the classroom as a laboratory; (2) group explanations followed by individual work; (3) study guides; (4) maximums only as rewards to supplement regular work; (5) supervised study; and (6) the group method with leaders carefully chosen and trained.

To maintain discipline the common practice is (1) to throw responsibility on the individual; (2) to control environmental conditions; (3) to make group leaders responsible; (4) to prevent copying by the personal check, by relieving undue pressure, and by making check from the teacher imminent.

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To develop individual responsibility, teachers (1) require pupils to judge human nature and face their own errors in committee work, projects, and public exhibits; (2) hold superior pupils responsible for reports followed by testing the class, (3) require self-assigned supplementary work; (4) require self-measurement through self-corrective drills and exercises, proofreading, and individual graphs, charts, and lists of errors.

To develop social consciousness teachers (1) induce each pupil to contribute to projects; (2) consider each pupil a specialist; (3) rotate honors; (4) train chairmen; (5) permit interchange of help and checking of work on definite bases.

To measure pupil progress, teachers commonly (1) give frequent and short objective tests in series; (2) mark papers immediately and in the pupils' presence, if possible; (3) use simple marking systems; (4) use graph achievement; (5) give honorable publicity to extra work; and (6) use a flexible credit system.

25. Hoist, John Russell. *An Analysis and Evaluation of the Work for the Non-Curricular Boys in Hollenbeck Junior High School.* June, 1928. Pp. 133.

Problem. A special class of over age, retarded boys, known as a non-curricular group, was studied to determine the present educational and social status of members of the group, to decide upon plans of instruction to be used with them, and to measure what has been accomplished in the group by the special treatment. Over a period of three years 196 over age low I.Q. boys came under the observation of the writer, and this study was inspired by and based on those contacts.

Materials and Procedure. The class was first organized in the spring of 1923, in the Hollenbeck Junior High School. A first group of 16 boys was segregated so that a study could be made of peculiar behavior problems, a suitable curriculum be adapted, individual problems be better understood, and interpretations of the problems be made to others as well as to the boys themselves. The members of the group were considered as handicapped mentally, physically, and socially. "Non-curricular" being a local terminology, the author selected definitions and descriptions from certain educational authorities to describe the group dealt with in the study. The social and educational backgrounds of the individuals of the group were collected and tabulated. A study was made of the programs of the boys before they entered Hollenbeck; and courses of study, marking systems, and grade classifications were disregarded in an attempt to meet the educational, physical, and social problems of each boy. The program offered was worked out for each

boy in terms of his individual needs. Successful achievement for each boy was set as the goal of instruction. Each boy progressed at his own rate.

Findings and Conclusions. The group was largely made up of boys of foreign parentage, only 4 per cent of the parents being born in America, and the majority of the parents were illiterate. Most of the fathers were unskilled laborers; only 30 per cent having a specific trade. The boys show a decided interest in learning a trade, 75 per cent of the boys help financially in the home, 95 per cent report favorably on the use of leisure time, and 96.4 per cent of the boys have good health, though 33 per cent of them were placed in the group because of some physical handicap.

Facts with regard to their educational status indicate that boys range from 1 to 10 years in school experience and have attended from 2 to 9 different schools. Of the group one-third came from special rooms and two-thirds from grades 3 to 7, mostly from B5, A5, and B6 grades. Four-fifths of the group are 14 years or over and three-fourths of the group have I.Q.s below 76. Their Arithmetic ages vary from 2 to 8 years and their Reading ages from 1 to 10 years.

Of the 196 boys considered only 10 failed to make adjustments. 186 have gone on into regular junior high school classes, senior high school vocational work, or part-time schools.

26. Huxtable, Richard Byron. *An Analytic Study of Pupil Failures in High School Subjects with Suggestions for a Remedial Program.* May, 1928. Pp. 86.

Problem. This analytical study of pupil failures considers the following questions: (1) In what way does intelligence affect failure? (2) How does physical well-being affect failure? (3) Does acceleration or retardation with reference to chronological age contribute to failure? (4) Does acceleration or retardation with respect to mental age contribute to failure? (5) How does absence relate to failure? (6) Does participation in athletics affect failure? (7) Does participation in student government affect failure? (8) Does participation in club work out of school contribute to failure? (9) Does outside employment contribute to failure? (10) Does pupil load influence failure? (11) How does home study relate to failure? (12) What reasons do failing students give for their failure? What reasons do scholarship students give for their success? (13) What reasons do teachers cite for giving failing grades to students? (14) What reasons for failure do authorities recognize? (15) Are there remedial measures which will lessen the probability of failure?

Materials and Procedure. In a southern California high school of 754 regularly enrolled pupils a list of the failing students was obtained for the first semester. This list contained 120 boys and 48 girls of whom 112 boys and 44 girls returned the next semester. A list was also made of the scholarship students including 76 girls and 24 boys. Questionnaires were sent to both groups and filled out in the home-room during a time set aside for that purpose. A tabulating blank of personal data was filled out for each pupil concerned and considered in connection with the questionnaires.

Findings and Conclusions. Evidence presented indicates that failures decrease as the higher grade levels are attained. Mathematics, Spanish, Latin, and English lead in the number of failures. No common standard is found to exist among teachers in percentages of failures. Girls show a marked positive tendency to attain to higher scholarship than do boys of comparable mental ability and show less likelihood of failure than do the boys.

Among the factors influencing scholarship, one must consider physical endowment. Maturity of ability with reference to the task is necessary to success. In the group of failing students studied here, seventeen were found to be accelerated both chronologically and mentally, which indicates that they have been unduly accelerated and are in definite need of adjustment work. Scholarship students are usually accelerated chronologically and retarded in mental age and therefore form a "young and bright" group.

Attendance is a significant factor in scholarship success, as is indicated in the following record of attendance of the failure and scholarship groups. Thirty or 25.9 per cent of the failing boys missed more than one week, 12 or 10.4 per cent missed more than two weeks, one or 4.2 per cent of the scholarship boys missed more than one week and none more than two weeks. Seventeen or 37 per cent of the failing girls missed more than one week, 10 or 21.7 per cent missed more than two weeks, 9 or 11.8 per cent of the scholarship girls missed more than one week and 1 or 1.3 per cent missed more than two weeks. It is of interest that the scholarship pupils kept in close touch with their school work while out for prolonged periods and that the failing students exhibited no such desire.

Participation in athletic sports apparently had little effect on success in studies, nor did participation in student body activities though leadership in the latter seemed more likely to fall on members of the scholarship group.

The nature of the pupil load rather than its size seems to be a decided influence in the matter of scholastic success. Girls tend to carry heavier subject loads than boys, and many "over loaded" pupils are members of the scholarship group. That subject loads cause failure seems due to the fact that the subjects are not suited to the individual. That outside work is conducive to failure is not borne out in the study, though boys in the failure group average more hours of outside employment than do the boys of the scholarship group. In home study the median scholarship boy spends 1.8 hour more than the median failure; the median scholarship girl spends 1.6 hour more than the median failure girl.

Pupils were asked to name those factors which they considered as influential to their success or failure. The scholarship group reported interest, ability to learn easily, hard work, and good health. The failure group listed lack of effort, lack of sufficient outside help, dislike of teacher, hard subjects, heavy programs, and poor health.

It follows from the study that to eliminate failure as far as possible, each pupil must have a chance to perform his tasks satisfactorily, the school administration must perform its tasks of programming, assigning classes, making provisions for needed adjustments, without gross mistakes. It is the duty of the school to see that pupils fail only for causes beyond the control of the school. A counseling program is necessary to provide adjustment for failures due to mentality, to advise and follow up remedial treatment for failures due to physical conditions, and to assure proper grade placement in order to eliminate failures due to undue acceleration or retardation.

27. Rustemeyer, Theresia. *An Examination of the Records of Superior Undergraduates.* June, 1930. Pp. 133.

Problem. Based on college records of B average, and higher, of major students in three graduating classes of the University of California, at Los Angeles, the study attempts to determine what may be expected of a superior student in a large university.

Materials and Procedure. For each of 363 students whose records in their major subject averaged B or higher, there were available four sets of materials: the permanent university record cards filed in the recorder's office at University of California at Los Angeles; permanent records of Army Alpha scores filed in the office of the director of teacher training; official commencement programs for 1925, 1926, and 1927; and the yearbooks for those years. From the record cards, grades were calculated and summarized in their arithmetical equivalents. From the commencement programs the undergraduate majors were noted; These programs also served as the check list of students who graduated with

honors. The yearbooks list the extracurricular activities of each senior. These yearbooks were used, therefore, as a basis for the computation of extracurricular correlations.

Findings and Conclusions. Among the conclusions based on the records studied are the following:

Superior students, under the definition of this study, constitute 29.5 per cent of all the graduates studied; but since only 17.3 per cent of some 5000 entering students achieve graduation, this means that superior students who graduate constitute only about 5.1 per cent of all who enter the university. Of the women who graduate, 28.6 per cent average B or better in major, while of the men 21.4 per cent achieve this standard.

The university scholastic average is the better indicator of many-sidedness in interests and aptitudes; the major indicates one-sidedness of interest and aptitudes, and a special aptitude in one field. The average student is less specialized, less narrowed, on the average than is the B-major student.

The superior students usually have a total university record lower in general than in the major subjects; show more variability in Psychology X (required psychology) than the average group of students; pass Subject A (entrance English) with a little more ease than the average group of students; engage in sports more actively than the average; start with a superior grade-point average and go steadily higher, year by year, to commencement; remain in college about the same length of time as the average students; graduate, in general, at about the same age as the general average, although very superior students tend to be younger at graduation; show, when taken as a group, more variability in the age extremes than those included in the average group; carry a more compact, narrowed program than the general average; engage in more activities, especially in the group that graduates with honors, and take part in them, if entered in them at all, very whole-heartedly; hold more executive positions in activities; realize only very rarely even an approximately equal general accomplishment; in most cases, find in success in his major field, compensation for less able work in extra-major fields.

28. Specht, Ida L. *A Study of Failure Among High School Students of Superior Intelligence.* June, 1929. Pp. 116.

Problem. During the past four years the writer has interviewed failing students in the mathematics department of the Los Angeles Public High School and has found the students with I.Q. of 110 or above, the

greatest problem. The situation was analyzed and it was discovered that they could but would not do the work required; that the majority of these students were either failing in another subject or else just getting by with passing marks; that special teachers and classes were provided for the dull pupil who was failing, but no provision was made for the failing student of superior intelligence. This situation seemed critical and of sufficient importance to merit further investigation. Therefore, a study of failure among high school students of superior intelligence was undertaken.

Materials and Procedure. A Los Angeles city high school located in the southeastern part of the city, near the industrial district, was chosen for the study. This school has an enrollment of about 2000 students, the majority of them representing homes of very moderate circumstances.

During the school year 1927-28, the writer made a survey of all students in this high school having an I.Q. of 110 or above. At the end of 10, 20, and 30 weeks, all failures for these students during each of these periods were recorded. This automatically divided the original group into two groups. One was the failure group, which included all students who had one or more failures recorded against them; and the other represented the successful group, which included all students who did not have a failure recorded against them during the same period of time.

The students in the failing group, whose I.Q. seemed doubtful, were retested by the counselor one or more times and the average I.Q. recorded. These students whose average I.Q., after retesting, was found to be below 110, and all those from the failure group who left school since this preliminary study began, were eliminated, reducing the failure group to 68. This group of 68 students constituted the failure group of this study.

The successful group, which is used for comparative purposes only, was composed of 30 students chosen at random from the group which had no failures recorded against them.

The major part of the data for this study were obtained by a personal interview with each student. The purpose of these interviews was two-fold: (1) to obtain information which affected the students directly, such as age, race, nationality, school progress, attendance, study habits, plans for college, employment, social life, and physical condition; and (2) to obtain information which affected the students indirectly, such as homes, family, and parents.

Comparative studies of the students in the two groups, and of the homes, the parents, and the families of these students were made from the questionnaire data with an idea of discovering the cause or causes of failure.

Findings and Conclusions. A scientific study of failure necessitates an emphasis placed on the pupil as an individual. Each failure presents an individual case of maladjustment, and must be treated as such.

In order to determine the extent to which superior students have been successful in their school work, their accomplishments should be compared with their school work, their accomplishments should be compared with their own ability and not with the accomplishment of other students. Promotion made on what pupils have done in comparison with what they are capable of doing would force the superior student to cultivate good study habits and to lay the foundations which will be required for the interpretation and execution of later tasks.

The fact that so many failures of superior students occur in the first and second years of our senior high school should be a challenge to the high school to place its very finest teachers in charge of these classes,—teachers who can provide more than a single treatment for all cases. In each subject there should be many kinds of treatment for different cases in order to secure the largest growth of individuals included.

There should be devised for the superior students a special curriculum which will test their powers continuously and will tend to eradicate any faults which they may have contracted. The high school has an obligation to its superior students which can neither be evaded nor subordinated. This obligation must be met and provided for regardless of the pupil's performance in the earlier grades.

In many cases it is reasonable to seek the causes of failure of superior students in out-of-school influences. First of all the school should look into the home life, for the home is the most important of all of our social or civic organizations. Often the effects of adversity at home are interpreted by the teacher as lack of effort or lack of interest. There must be means of discovering the influences bearing on the child's mental condition. A wise and tactful member of the faculty should be given the time to investigate each case of failing superior students.

The fact that many of the high school failures are among superior students is sufficient proof that these students need special attention. The schools give less education to them than they do to the average student or the dullard. The bright ones get an education, but they learn in school as they learn on the street.

The high school should be an ideal democracy and offer an opportunity to each one of the superior students to develop his particular talents to the utmost limits of his own capacity and not up to the limit of the capacity of the average mass.

PART IV. STUDIES IN THE GUIDANCE AND COUNSELING OF SECONDARY SCHOOL PUPILS

A. General Considerations

29. Danneberger, Charles Obourn. *A Comparison of the Pupils in Academic and Vocational Courses in High School.* May, 1928. Pp. 36.

Problem. The purpose of the study is to determine whether pupils who take the academic course in high school make better grades than the pupils who take the vocational course, and to determine whether pupils who take the academic course have higher intelligence quotients than pupils who take the vocational course.

Materials and Procedure. Materials consisted of the records of the graduating classes in the Monrovia, Arcadia, and Duarte high schools for the years 1926 and 1927. Subjects were selected in which both the academic and vocational pupils were under the same instructor,—subjects in which vocational students were not present in sufficient numbers to make reliable comparisons were omitted. The subjects used were English, General Science, and History. Grades were reduced to numerical equivalents and statistical comparisons made.

Findings and Conclusions. In the three schools in 1926, the experimental coefficients of the differences between the grades of academic and vocational pupils were for English 9, 1.27; for English 10, 0.79; and for English 11, 0.75. Since an experimental coefficient of 1.00 indicates practical certainty, it is seen that only in the case of English 9 is the difference statistically significant. In these grades in 1927 the experimental coefficients were 1.07, 1.70, and 0.54 respectively. If now the grades for the three years of English are combined to include both 1926 and 1927 grades, the experimental coefficient between the two groups is 1.13. Thus it is practically certain that on the whole in these schools, academic pupils receive higher grades in English than do vocational pupils.

Similar comparisons of three groups in history gave experimental coefficients of 1.02, 0.61, and 1.20, the means in each case favoring the academic students. When the three groups were combined, the experimental coefficient was 1.18. Thus it is practically certain that on

the whole grades in history of academic students are higher than those of vocational students.

The comparison of general science groups in 1926, revealed that the experimental coefficient of the difference was 0.83 with the mean again favoring the academic students. Thus we are only 0.83 of practical certainty that the grades of academic students excel those of vocational students in general science.

A comparison of the intelligence quotients of academic and vocational graduating students in the three schools in 1926 showed the averages to be 108.0 and 100.4 respectively; the experimental coefficient is 2.68. In 1927, the average intelligence quotients were 107.8 and 96.4 respectively, experimental coefficient 4.80; in 1928, the average intelligence quotients were 108.4 and 102.5 respectively, experimental coefficient 3.20. When the results for the three years were combined, the average intelligence quotients of academic and vocational students were 106.5 and 100.5 respectively. The experimental coefficient of the difference is 12.8. Thus there is 12.8 times practical certainty that the academic students excel the vocational students in intelligence test scores.

It is concluded that academic students are superior to the vocational students in both intelligence and scholarship.

30. Kersey, Cleon. *A Study of the Vocational Guidance of Continuation School Students who are Taking Work in a General-Shop Course.* April, 1928. Pp. 85.

Problem. The guidance of a pupil into employment, determining whether he is properly fitted for it, and making adjustments between the junior worker and his job are important functions of the Continuation School program. This study is made in an attempt to improve the shop program of the Continuation School and suggest ways of meeting more fully the guidance needs of junior workers in the city of Los Angeles.

Materials and Procedure. To make this study of the group of pupils already engaged in trade and industry it was necessary to gather data relating to employment and employee, and to study actual conditions of the group. The determination of the best subjects to offer and the best methods of presenting the materials to bring about the desired results in a four hour per week program and to check on progress of individual under the working of the program are the outstanding phases in the development of this study.

Findings and Conclusions. The junior worker is generally characterized by his definite choice of future work, by his occupational aim

in life. It is the duty of the Continuation School general shop course to help the student decide if such aims should become permanent and if they are logically founded. Because of the flexibility of courses, the general shop in the Continuation School is well adapted to meet the needs of the group dealt with in this study. Practical work very similar to that done on actual jobs can be given. Guidance of the junior worker necessitates knowledge of his work, his home conditions, and other outside factors. Citizenship must be emphasized in the four hour program, and some time must be given to instruction in academic and related shop subjects. The occupational choices of 68 per cent of the group fall within ten occupations, the other 32 per cent are very diverse in character, therefore a shop must be provided for ten or more types of shop work. The ten occupations in order of frequency of choice were auto mechanics, electrical work, machinists work, drafting work, cabinet making and wood work, aviation and aeronautics, salesmanship, carpentry, architecture and designing, and sheet metal work. The purpose of vocational guidance instruction and exploratory courses should be emphasized in the work of the pupils before they leave the regular school and especially in their early career in the Continuation School. The shop work should then verify the pupil's choice of occupation or show him how to make a wiser and permanent choice.

31. Scudder, Kenyon Judson. *The Predictive Value of General Intelligence Tests in the Selection of Junior Accountants and Bookkeepers.* May, 1927. Pp. 52.

Problem. Based on the records of 264 men, disabled veterans of the World War, this thesis studies the predictive value of general intelligence tests as a basis for advertisement in the selection of bookkeeping and junior accountancy as training objectives.

Materials and Procedure. For 264 disabled veterans of the World War there were available records of their examinations on the Terman Group Test of Mental Ability, and the records of their training work as junior accountants or bookkeepers under the supervision of the Los Angeles Regional Office of the United States Veterans' Bureau. For 103 of these men, all from the group of those who finished their training successfully, there is also available information relative to their achievement in employment. A comparison of these records is made, to measure in some degree the predictive value of general intelligence tests in the selection of junior accountants and bookkeepers, a junior accountant being here defined as a graduate from a school of accountancy who lacks the two years of practical experience required before he is eligible to take the state examination for a license as a Certified Public Accountant in the State of California.

Comparisons are also made of the records in training of the 170 men from the total group of 264, who finished their training, and the 94 whose training was discontinued for other than medical reasons; men whose health made discontinuance advisable are not considered at any point in this study.

Findings and Conclusions. The median score on the Terman Test for the entire 264 cases was 129; for the 170 rehabilitated cases, the median score was 142; for the 94 in the discontinued group, 112, a difference appearing between the median scores of 30 points in favor of the rehabilitated group. It must be remembered that discontinuance resulted from failure in the work of bookkeeping, and not from low score on the Terman Test.

Of the 170 who completed their training course, 120 were rehabilitated in the years 1923 and 1924; the 103 reports on subsequent employment, referred to above, came from this group of 120, in March, 1927, after from 3 to 4 years of experience in employment. Eighty-five are still employed in their training objective or in closely related work; 11 report a serious physical disability interfering with steady employment; 7 failed and were at the time of making the report unemployed; that is, 93.2 per cent of the group of 103 are successful in their work. Their prewar wage is found to have averaged $106.85 per month; the average wage at rehabilitation work is $133.72, showing an average monthly increase of $16.87 in spite of the war disability. This is in itself evidence of success in the training objective.

In the group of 94 discontinued cases, the outstanding causes of failure are wrong attitude and low intelligence, evidence of the latter being the median score of 112 on the Terman Test, and wrong attitude being given as the cause of discontinuance in 78 cases.

It appears further that those scoring below 100 on the Terman Test (equivalent to an I.Q. of 90) all either failed or experienced great difficulty in succeeding. In the discontinued group those testing in the superior level showed in every case a contributing factor towards their failure in a wrong attitude and a lack of interest in clerical occupations.

The usual methods of advisement were found less reliable than the tests of general intelligence, because of the personal equation. While other factors no doubt contributed towards success, it appears that the single factor of general intelligence in the groups studied far overbalanced the others and showed itself to have the most important predictive value.

32. Smith, Margaret Lorraine. *School Counseling: Its Trends and Practices.* June 1930. Pp. 153.

Problem. The purpose of this study was to analyze certain attempts of schools in counseling pupils and to determine trends in significant phases of school Counseling, such as definition, problems, history, organization, practices, qualifications and training of counselors, and forms and records used by counselors.

Materials and Procedure. Personal visits were made by the author to Englewood and Lindbloom High Schools in Chicago; to the New Trier Township High School in Winnetka, Illinois; the Sterling Morton Township High School in Cicero, Illinois; and to schools of Berkeley, Los Angeles, and Piedmont, California. Current literature in the field of school counseling was carefully surveyed. A questionnaire with personal letter appended was sent to 50 superintendents, principals, deans, or directors of educational research in high schools, selections being determined by organization of school, geographical divisions represented by school, types of communities in which schools were located, and school enrollments. Thirty-three replies were received. Conclusions were drawn from findings in the literature, from questionnaires and from personal visits.

Findings and Conclusions. The following were found to be the prime factors influential in the development of school counseling as a definite and separate function of secondary education: the great increase in the actual numbers of educational and vocational functions of students enrolled in secondary schools; the increase in the size of the individual schools with the resulting division of administration and delegation of function; the more universal acceptance of Dewey's educational philosophy wherein the child is the center of interest rather than subject matter, education as a process of experience and growth, and the school as a social institution; the formulation of objectives for secondary education; and the development of the junior high school with its new objectives for retention of pupils, economy of time, exploration, and guidance; and changes in teaching methods and diversified curricula.

From Parson's beginnings in Boston, in 1908, the idea of vocational bureaus and guidance has spread, especially in the industrialized East, until today there are few cities in the East that do not have some form of vocational bureau, with counselors assisting in the guidance plan. The materials included in this study seem to point towards a tendency to have both the educational and vocational phases of counseling more developed as time goes on and as the Pacific Coast States become more highly industrialized.

Counselors are in general elected or appointed in the same manner as other teachers in the same system, that is, according to general practice. A minimum of two years of successful teaching is the usual requirement. In 60 per cent of the schools, the counselor is classified as a teacher; in 30 per cent as an administrator; and in others as a department head or special teacher.

The actual plan and purpose of the guidance program determine the organization for putting it into effect. There is, however, in most of the junior and senior high schools included in this study, a marked tendency to have a delegated school counselor, whatever variety there may be in the activities of the office. This is especially true in the East and in California. In the Middle West there is a smaller percentage of delegated school counselors. The deans and registrars are also often involved in counseling. The homeroom plan of general guidance is almost universal in practice, and usually serves as a means of approach for the delegated counselor to reach groups of students. There are some instances where the organization includes only part-time devoted to counseling and part-time to teaching, while in about an equal number counselors devote full time to counseling activities.

About one-half of the schools included in this investigation reported that their counselors give mental and achievement tests, and 57 per cent of the school counselors divide students into groups according to ability for classes in instruction. California schools lead in the percentage of schools having ability grouping for instruction. In one-third of the schools, those of the East and Middle West, the testing is done by a special psychologist, and in the remainder, by principals. The Otis and Terman Group Tests are the most widely used tests in those schools surveyed. In practically all of the schools surveyed, the counselor has a part in sponsoring clubs or in directing assemblies, although the deans and vice-principals were usually responsible for the extracurricular program as a whole.

All counselors of schools surveyed indicate that they attempt to bridge the gap between the elementary and the junior high school and between the junior and the senior high school. The details of these programs vary from those of a carefully worked out plan, through which the lower school students are given definite information regarding the educational possibilities of the upper school and then guided in making their choices before they reach the upper school, to a haphazard general talk to the group of students or the passing out of pertinent literature without any careful individual guidance. In this connection the counselor is often aided by a handbook having a full clear descriptive presentation of the school's requirements, activities, and traditions.

Of all group activities included in this study, the teaching of occupational information shows the greatest variation. In approximately one-half of the schools surveyed, the counselors hold group meetings to acquaint students with curricular and vocational information, and conduct assemblies where outside speakers give occupational information. In the East, with highly industrialized cities, the vocational phase of guidance has the emphasis in the counselor's program of activities. The counselors of all the schools of the cities of the East included in this study devote part of their time to teaching classes in occupational information, which is usually a required course. Also counselors in the more highly industrialized communities of the Middle West teach classes in occupational information. On the Pacific Coast, however, there are almost no such courses, and the few existing are not required courses.

All counselors have conferences with parents at school; 40 per cent go to homes for conferences; 16 per cent do so occasionally; and 36 per cent have conferences with employers.

The nature and the extent of research activities of counselors as shown by the percentage of schools indicating research in each problem, and by the percentage of counselors in those schools who conduct the research are respectively as follows: failures, 73 per cent and 71 per cent; acceleration, 45 per cent and 67 per cent; retardation, 52 per cent and 65 per cent; variation in intelligence by grades, 55 per cent and 72 per cent; correlation of school marks with intelligence, 64 per cent and 62 per cent; teachers' marks, 49 per cent and 56 per cent; special aptitudes, 42 per cent and 71 per cent; elimination, 52 per cent and 59 per cent; seniors, 52 per cent and 71 per cent; follow-up types in school progress, 36 per cent and 67 per cent; follow-up students withdrawn, 30 per cent and 60 per cent; follow-up of graduates, 40 per cent and 45 per cent; case studies, 54 per cent and 89 per cent; vocational information, 52 per cent and 82 per cent; and vocational placement, 49 per cent and 50 per cent.

33. Wilkinson, Helen V. *Factors that Influence the High School Student's Choice of Courses.* May, 1927. Pp. 58.

Problem. The study aims to discover the factors that enter into the high school student's selection of a course or curriculum such as: sex differentiation, age, intelligence, intended vocation, parent's occupation, student's work and outside interest, the influence of the school counselor, and college entrance standards.

Materials and Procedure. The materials of the study were obtained from the answers to a questionnaire circulated among 232 seniors

in Jefferson High School, Los Angeles, from the school counselor, from the records of five Los Angeles high schools concerning postgraduate students registered there, and from educators of the day who have written on the subject. The numerical data were then tabulated and analyzed.

Findings and Conclusions. There was found to be considerable differentiation in the curricula chosen by the two sexes as would be expected from their nature and purposes. The engineering college preparatory, vocational mechanic arts, retail selling, and vocational architecture curricula were being taken by boys only. The college preparatory curricula in architecture, science, journalism, and literary subjects; as well as curricula in pre-vocational music, bookkeeping, and social arts were being taken by both boys and girls. College preparatory curricula in art, library, and music; as well as vocational library preparatory, vocational arts, home economics, and stenography were being taken by girls only.

Age influences the student very little in his choice of course. Intelligence is a direct factor in the choice of a curriculum. The mean intelligence scores of students enrolled in college preparatory curricula was 105.7 and for students enrolled in non-college preparatory curricula, 98.9. The experimental coefficient of this difference is 1.96, denoting that there is statistical certainty that the true difference is greater than zero.

Questions relative to the intended vocation of students and the curriculum chosen revealed that 75 per cent of students had chosen curricula related to the intended vocation, 16 per cent had chosen curricula different from intended vocations, and 8 per cent had made no choice of vocation.

In the choice of vocations the trend was to make choices differing from the occupations of the parents, and higher in the occupational scale. It should be noted in this regard that the school was located in a district where the majority of the parents were skilled, semi-skilled and unskilled laborers. While 9 per cent of the parents were unskilled laborers, none of the students intended to engage in such occupations. Although 10 per cent of the parents were semi-skilled laborers, only 0.4 per cent of the pupils intended to work on this occupational level. Against 33 per cent of the parents who were skilled laborers, only 14 per cent of the students stated that they intended to enter this field. Though 26 per cent of the parents were engaged in business, 44 per cent of the students intended to engage in it. Only 19 per cent of the parents were in the professions but 33 per cent of the students intended to engage in such activities.

Little relationship was found between the occupational and recreational activities outside school and the curriculum followed in school.

Most of the students stated that they had chosen the curriculum in which they were enrolled either with a vocational end in view or because they liked the course.

The counselor is a self imposed factor, for the pupils are almost required to accept her advice whether or not it fully agrees with their choice.

The effect of college entrance standards is shown in the changes of students' curricula. During the first semester of 1927-28, 80 changes in curricula were made; 37 of these changes were from college preparatory to other curricula; 3 changes were made from one college preparatory curriculum to another; 5 changes were made from non-college preparatory to college preparatory curricula; and the remaining 35 changes, between non-college preparatory curricula.

B. In the Junior High School

34. Overholtzer, John M. *A Study of the Possibilities of Predicting Success in Typewriting.* May, 1928. Pp. 42.

Problem. This is a study of the relations between mental ability and the motor traits necessary to learn typewriting.

Materials and Procedure. A preliminary study was made of 50 pupils taking beginning typewriting in the Benjamin Franklin Junior High School in Pasadena, a school distinctively organized for retarded children. Tests here were of no avail, since no one of the students could type at a speed of 18 words per minute after a semester of typing. New tests based on the experience gained with this group were devised and administred to 60 junior high school pupils with 5 months practice in typing, and to 20 senior high school pupils with 17 months practice in typing, the tests covering immediate memory, following directions, tapping, substitution, and attention and accuracy. Success in typing was measured by a ten-minute speed test.

Findings and Conclusions. For the 80 students tested a correlation of 0.72 was found between the combined score on the tests for immediate memory, following directions, tapping, substitution, and attention and accuracy, and the score measuring success in typing.

The following conclusions are drawn: there are certain measurable traits that go to make up typing skill; one of the most important of these seems to be intelligence. While the critical measure of intelligence necessary for success in typing seems to be rather variable, those with an I.Q.

of less than 90 seem undoubtedly to be uncertain of success. Certain skills necessary to typing, aside from intelligence, are measured by this prognostic test; it is not yet possible to state any definite score below which pupils will be likely to be unsuccessful, but it may become possible to establish such norms if the tests are refined and many more cases are studied. Apparently the skills measured by this test do not remain stationary, but improve by practice at typing. Certain voluntary controls, such for instance as the rate at which the forefinger can be moved with the hand and arm held in a certain way, and the rate at which the wrist can be bent, as measured by Book, are not dealt with in this test. Other factors such as interest and the desire to learn are of great moment in achieving success in any endeavor, especially typewriting: as yet no methods have been found to measure them.

35. Roe, Marinita B. *Some Causes of Failure of Junior High School Pupils in the First Year of Senior High School and Suggested Remedies.* May, 1928. Pp. 38.

Problem. The study is made to determine factors which contribute to the failure in the first year of senior high school of students who have been graduated from a junior high school.

Materials and Procedure. In this study opinions were gathered and assembled by the writer from professional literature, from senior high school teachers, junior high school teachers, and from pupils. Comparisons were drawn between grades given in the junior high school subjects and in senior high school subjects. Tests were given in both schools with the intent of determining factors which influence failures.

Findings and Conclusions. The usual causes given by senior high school teachers are lack of effort on part of student, lack of ability, poor foundation, poor study habits, social or physical maladjustment, and irregular attendance. Pupils list insufficient explanation on teacher's part, dislike for teacher, lack of adequate place for the subject as most influential in failures. Other less personal reasons for failure are crowded conditions in the class room, too high standards, lack of co-operation between home and school and lack of provision for individual differences.

Spanish had the highest per cent (27%) of failure of any subject continued from junior to senior high school. The failures in English were sixteen per cent of the total number of grades and in geometry twenty per cent were failed.

Elimination of such a disastrous situation can be accomplished in part at least by establishing a greater understanding between teachers

and individual students and by placing the emphasis in teaching on the pupil and his needs rather than on the subject matter.

36. Seawell, Ruth T. *Guidance Practices in the Junior High Schools of Southern California.* June, 1930. Pp. 114.

Problem. The purpose of this investigation is to secure data concerning guidance practices in the public junior high schools of southern California, to compare the work being done with the needs for and purposes of guidance as expressed by the educational writers on the subject, and to formulate a practical, efficient program of guidance for junior high schools.

Materials and Procedure. This study is based on three sources: questionnaires sent to 60 junior high schools of southern California, to which 40 schools responded; interviews with 35 junior high school teachers, and the reading of many books and magazines dealing with various phases of guidance.

Findings and Conclusions. One of the modern trends in education is a movement towards the guidance of youth, especially during the exploratory period commonly found in the junior high school. The last three decades span this movement; it had its inception in welfare work for employed children, and from this vocational beginning it has retained until very lately far greater concern with the vocational than with other fields.

The aims of guidance in southern California junior high schools are in the order of their importance in these schools: to help pupils solve their immediate school problems, to give them a systematic view of life's opportunities, to help them decide what courses and curricula to select, to help them make vocational decisions. This seems also to be the chronological order in which the needs of the pupils arise.

There is a trend towards a centralization and specialization in the responsibility for guidance work, more counselors being employed and still more being needed; there is also a trend towards including every teacher in such work, through well-planned homeroom contacts with pupils.

For an average school, the data most useful as a basis for guidance seem to be the following: Pupil's record for grade school, cumulative record of scholastic work, record of aptitude in exploratory courses, results of intelligence and other tests, record of extracurricular activity, and record of physical examinations.

There is a tendency to plan for and require of every pupil both group and individual guidance. Vocational and educational phases are more economically handled in groups; personal guidance of an adjustive and individual nature is necessary, but in large schools it tends to be crowded out. There seems to be no well-developed technique of personal guidance interviews for the junior high school.

There is no one text for guidance of the adjustive sort; texts on vocations, and occupations, may be used for groups. In general, books are an important aid, and the librarian, by her influence in suggesting reading material is often as important as the teacher in guidance service.

The following program of guidance is set up as a result of a careful study of the replies to the questionnaire, many personal interviews about guidance practices, and wide reading on the subject:

A. *Objectives.* In the seventh grade, guidance aims to help a pupil understand himself, to develop attitudes; to acquaint the pupil with the school and its traditions, to articulate the school and the home, to practice efficient methods of study, to provide interesting and profitable school experiences and to have the pupil previously aware of the content of courses and curricula as a basis for future selections.

In the eighth grade, guidance aims to continue the work of the seventh grade, to present occupational studies rather systematically, to teach knowledge of life's opportunities, to give more attention to curricular and occupational correlations, and to show the value of an education.

In the ninth grade, guidance aims to continue the work of the lower grades, to train in self-analysis and in thinking for one's self, to evaluate and interpret the various exploratory and tryout courses, to enlarge and enrich the basis for vocational and avocational choices, to emphasize the advantages in making intelligent decisions for higher education or for making definite preparations for chosen occupations.

B. *Organization.* Every pupil is assigned to a homeroom group which meets daily for about thirty minutes; every pupil is required to elect one or more exploratory, occupational or tryout, or orientation courses each semester; every pupil has opportunity for personal interview with his adviser, unhurried, and not as a favor but as of right.

C. *Personnel.* Principals and counselors may act as leaders of all guidance activities in the school, may act as chairman of guidance committees and groups, may plan for the guidance program, may give a maximum of time to personal interviews, may supervise the records, may encourage all methods of guidance in the school, may be responsible for the dissemination of information about courses and curricula, may

help pupils select courses and curricula according to their ability, interest, and aptitudes.

Vice-principals and deans may be responsible for the moral and social guidance of pupils, may have an assigned time for personal interviews, may assist the counselor and assume some responsibility for guidance.

Heads of departments may plan the exploratory courses in their fields, encourage extracurricular activities, help in ability grouping of pupils, plan courses suitable to the pupils, and adjust pupil difficulties by changing programs, sections, and the like.

Homeroom teachers should be the special friends and champions of every pupil assigned to them, they may help in collecting information, may advise and guide pupils in their educational and vocational choices, may be alert to help them socially and morally, may look after any phases of guidance that are not otherwise cared for, may interpret the school to the pupil, may encourage school spirit, fair play, loyalty, and the like, and may investigate the study habits of the pupil with a view to their improvement.

37. Walton, Maude Smith. *The Correlation of Teacher Ratings in Vocational Exploratory Courses with the Test Scores of Mechanical Ability.* May, 1928. Pp. 45.

Problem. The study compares the scores of boys on the MacQuarrie Test of Mechanical Ability and the teacher ratings of these boys in five junior high school vocational exploratory courses, with a view to discovering what degree of relationship exists between pupil ability as indicated by the scores on the test and the grades earned in these courses. An attempt is made to compare the validity and reliability of these two measures.

Materials and Procedure. The MacQuarrie Test of Mechanical Ability consists of tests in tracing, tapping, dotting, copying, locations, one of spatial relations called "Blocks," and one called "Pursuits"—a following of lines with the eye through a somewhat tangled pattern. When tried out by the author by double testing several groups at intervals of from one to six months apart the test was found to have a reliability of 0.90 and to be loosely correlated with intelligence. Since several tests purporting to measure mechanical ability were found to correlate to a greater degree with each other than with other variables there is reason to believe in the existence of some independent and fairly well isolated factor which may be determined as mechanical ability. It is assumed that the test is a valid measure of this ability. The scores of 100 boys on

the test of mechanical ability were correlated with the grades earned by these boys in vocational exploratory courses in wood shop, mechanical drawing, sheet metal, auto shop, and electrical shop. Since in these courses the abilities necessary for success are assumed to be about the same, the grades assigned pupils in different courses were compared as a means of finding the reliability of the teachers judgments.

Findings. For 50 students under several teachers the correlation between scores on the mechanical ability test and pupils grades were found to be as follows: wood shop 0.21, mechanical drawing 0.13, sheet metal 0.33, auto shop 0.01, and electrical shop 0.08, the probable error in each case being 0.09. When the study was extended to include a greater number of cases and the relationship between the test and grades computed for individual teachers it was found that teachers varied greatly. In wood shop one teacher giving the same course, in the same year, in the same school, with about the same equipment, to boys of about the same age, and the same range of intelligence, assigned grades correlating $0.01 + .12$ and $0.31 + .11$ with the mechanical ability test. Other teachers grades correlated $0.38 + .10$, and $.23 + .14$. In mechanical drawing the correlations between teachers' grades and the test ranged from $-0.09 + 0.09$ to $0.26 + 0.07$. In sheet metal which was all taught by one teacher the correlations for 50 cases was found to be $0.33 + 0.08$ and for 79 cases $0.27 + 0.10$. In auto shop 84 cases were found to have a correlation of $0.19 + 0.07$ between grades and scores on the test. In electrical shop 83 cases were found to have a correlation of $0.10 + 0.07$ between grades and scores on the test.

To ascertain more exactly whether or not teachers were grading according to any consistent standard, the grades given students in two courses were correlated. A correlation of $0.67 + 0.06$ was found between grades given in sheet metal and mechanical drawing and a correlation of $0.41 + 0.09$ was found between mechanical drawing and electrical shop. Other correlations were found to be low. It will be noticed above that the highest correlations between grades and the tests were found for these sheet metal and mechanical drawing teachers. It was concluded that only two of the teachers of the six giving grades during the period of the study gave grades that were indicative of mechanical ability that the courses purport to measure.

The writer concluded that there was apparently in the mind of the teacher, and most probably in the content of the course itself, a lack of an objective, standardized, point scale for rating pupil ability, as differentiated from conduct in class, effort, interest, obedience, and other pupil virtues in the classroom. There seems to be a need for the con-

struction of an ability rating scale for grading pupils in vocational exploratory courses, quite aside from, or in addition to, the usual mark given at the conclusion of the course. There is probably an equal need for a progressive, standardized, program of experience in these exploratory courses, which has been developed with a view to determining the degrees of pupil ability in any of the vocational families, especially handwork, and which includes exercises sufficiently difficult to really test the full range of the pupils' aptitudes and skills, and upon which a reliable rating could be based. Since investigation of the procedures used by the teacher of sheet metal revealed that he had adopted a program of projects successively increasing in difficulty, it seems quite possible that a try-out course can be developed that gives more accurate measures of the abilities which it is intended to measure. There seems to be a great need for further study of the methods and content of such courses.

C. In the Senior High School

38. Nichols, Marjorie P. *The Relationship Between Improvement in the Health of High School Girls and Their Improvement in Scholarship.* June, 1929. Pp. 93.

Problem. The problem of this study was to discover what relationship, if any, exists between improvement in health and progress in school. The factor of nutrition in three groups of undernourished school girls was studied as follows: Group I—those following regular high school routine; Group II—those following the regular high school routine modified by the procedure prescribed for nutrition classes in the Los Angeles city schools; Group III—those following regular high school routine modified by nutrition class procedure supplemented by an active personal cooperation in a health program covering twenty-four hours a day with perfect physical condition as an objective.

Materials and Procedure. The study was based upon an experiment in a Los Angeles four-year high school covering the period from September, 1928, to February, 1929. Ninety-five girls composed the three groups. Data on weight, general physical condition as diagnosed by the school physician, health, and scholarship were carefully compiled and analyzed. A daily health chart for the use of the group participating in the twenty-four a day health program was prepared, kept by the girls, tabulated, and analyzed. A suggested typical day's outline upon which the girls graded themselves was compiled.

Findings and Conclusions. Following are the findings in regard to the factor of nutrition:

Undernourished girls had no apparent physical defect beside the undernourished condition as evidenced by subnormal weight, the upper grade seemed able to gain slightly while following the regular high school routine.

The younger girls, however, show more evidence of the strain of regular high school routine and tend to lose in weight.

If undernourished girls who are also somewhat handicapped by physical defects are placed in special nutrition classes where proper living habits are stressed, and milk and rest provided for them during the school day, they show a tendency towards marked gain in weight and improvement in health even while they are under the strain of the regular routine of high school life.

Even when undernourished adolescent girls are further handicapped by somewhat serious structural or functional physical defects, it is possible for them to gain in weight and improve in health while under a restricted high school routine, provided that they are safeguarded by nutrition class procedure and further helped by giving their daily and constant personal attention to the task of improving in health.

For all underweight girls, the tendency seems to be for those nearest to normal weight to show the greatest improvement and the most rapid approach to normal weight.

Those girls farthest from normal in weight show the slowest improvement in weight gain and the least gain in pounds.

Following are the conclusions drawn as a result of this study:

There is, first a general tendency for scholarship to improve as weight increases and general health improves. This seems apparent for all undernourished girls no matter what the amount of gain in weight or degree of improvement in general health.

The tendency for scholarship to improve as health condition improves is not consistent, although there is some evidence that those girls who gained most weight showed a greater tendency towards improvement in scholarship.

Those girls who were nearest to normal in weight showed a tendency towards the greatest improvement in scholarship.

The trend seems to be that the older the girls and the nearer to graduation, the nearer their scholarship remains at the same level, irrespective of weight increase or health improvement. They probably

use any increase in strength and energy on school activities other than their studies.

The younger the girls are, the more definite is the tendency towards improvement in scholarship as their weight increases and their general health improves.

The group most handicapped physically showed the greatest number of failing grades, a poorer quality of scholarship, and the least improvement in scholarship.

39. Osterberg, Hildur C. *A Study of Pupil Load of Senior High School Students with Special Reference to Possible Connection Between Overload and Failure.* August, 1927, Pp. 96.

Problem. The study undertakes to ascertain what constitutes the load of Los Angeles high school students both as to school program and as to regular activities aside from this program, as well as to study certain phases of this load in their relationship to school success or failure.

Materials and Procedure. Pupil load was defined to include: the time spent in attending classes; the time spent in preparation of assigned lessons; the time spent in extracurricular activities; the time spent in club activities not under the auspices of the school; the time spent in private lessons,—music, dancing, and foreign language; the time spent in paid employment; and the time spent in regular home duties for which the pupil is responsible. Upon this basis a questionnaire was constructed and circulated among a certain group of students in each of 20 senior high schools. The students who answered the questionnaire were a random sampling of 45 from each of grades 10, 11, and 12 in each school, and limited by the following conditions: that each grade group contain a representation of each sex; that each student included be carrying 3 or more "solids"; and that one third of the students be rated with an intelligence quotient under 90, one third have an intelligence quotient rating between 90 and 110, and one third have an intelligence quotient rating greater than 110. The questionnaire was placed in the hands of counselors who administered it individually or to small groups. In all, 1,981 questionnaires were completed. This total is smaller than the 2,700 requested owing to the fact that some of the smaller schools did not have sufficient students falling in the classifications set up.

Findings. Students in this study report approximately one period of study or forty minutes daily for each subject. Differences in study time reported by the three mental ability groups were small and not significant beyond indicating a tendency for the low group to study a very little more than the others; differences in the average study time

for the three senior high school grades were insignificant; differences by sex showed a higher average of time spent in study for girls than for boys, while only a small group reported that they did not have sufficient time for study.

In each of the three mental ability groupings about 80 per cent reported 10 hours or less per week devoted to activities other than school duties, 20 per cent reported a load of 11 to 30 hours, and only 1 to 3 per cent reported a load of over 30 hours. Because variations in semester marks for different hours of activity were small and irregular, no critical point appeared where the load, as represented by total hours of activity per week, might be said to have tended to lower the student's scholarship rank. This condition held for all three mental ability levels. Students who reported no responsibilities aside from school duties made a lower average in scholarship than those who carried as many hours or more than the average of their group. This applied to all groups but most markedly in the bright mental ability group. In general it seemed that participation in extracurricular activities in school, or in other duties not under the auspices of the school, did not markedly affect a student's scholarship rank.

Study of the load of failing students failed to reveal any marked tendency towards overload, either in school program or in outside activities. The chances for a student with more than average mental ability to finish a semester without failures seem to be about twice as great as for the remainder of the students. One half of those who failed in two or more subjects lacked normal mental ability.

40. Robertson, Berdena Marion. *The Unadjusted Girl at El Retiro.* June, 1930. Pp. 107.

Problem. El Retiro is an experimental school for correctional education, housing at the time this study was made 75 unadjusted adolescent girls. It has been the established policy of the Probation Committee through whom girls, wards of the Juvenile Court, are sent to this school, to admit to it no feeble-minded girls, and to select for admission only those who would be benefited by the opportunities afforded by such a school. In 25 cases selected as a sample of the failing students admitted at El Retiro, this study attempts to explain the underlying causes for school unadjustment, and to suggest a program for remedial work.

Materials and Procedure. For each of the 25 cases considered, there were available results of the Stanford Achievement Test, with Form B at the entrance to the school, and Form A on a later retest; the records made at El Retiro school, both scholastic and social; the

record of the case from Juvenile Court; and the girl's own account of her difficulties. Individual case studies were made, based on all available data.

Findings and Conclusions. The average educational age of these 25 girls at entrance was 13.39, the average educational age upon the second Stanford Achievement Test was 14.75, the average interval between tests is, in months, 12.02; the average gain in educational age is then 14.48 months; that is during a year the average gain per pupil is 1.49 or almost a year and half educationally. These students, failing when admitted at El Retiro, were certainly not failing because of sheer inability to do the work of their several classes. School retardation is mainly the result of the girl's problems. The findings show that these girls have been mishandled and mistrained. Their academic failures were the expression of such faulty psychological reactions as laziness, shyness, seclusiveness, sensitiveness to criticism, lack of interest, or the outcome of behavior patterns, such as truancy, stealing, or home maladjustment.

Each of these girls, as the case data demonstrate, had a simple pattern but the causes were frequently overlooked. Each girl was unhappy and each needed personal guidance to keep her on the right track during the trying period of her life when motives were lacking and the guiding influence of the home failed her. Each girl reacted to encouragement and understanding and throve academically and socially as soon as a school program was adjusted to fit her needs, and the effort to fit the girl to the school program was abandoned.

In many of the cases, the lack of insight and genuine understanding on the part of earlier teachers had resulted in anti-social attitudes. The teacher's role in developing the emotional life of the girl seems to be of primary importance.

In each of the 25 cases here reviewed we find a girl with normal or above normal intelligence, who had definite behavior difficulties or was emotionally maladjusted, and who failed to achieve in proportion as her mental ability until she was given the proper environment, with understanding and able teachers.

41. Tritt, William Winters. *The Administrative Problem Involved in Determining the Recommendation to Higher Institutions of Graduates of a Senior High School of Los Angeles.* June 1929. Pp. 136.

Problem. This thesis was concerned primarily with the problems of adjusting high school recommendations to college under the accrediting and recommending plans as they exist at the present time. An effort

was made to determine which graduates the principal should recommend in order that all probable college successes might have an opportunity to go to college and that the reputation and the standing of the high school might not be jeopardized.

Materials and Procedure. In attempting a solution of this problem, the lists of four of the graduating classes of the Belmont High School of Los Angeles were obtained. Pertinent information was placed opposite the name of each student. In attempting a solution of this problem, high school grades of each student were evaluated, reduced to per cents, and ranked; the intelligence quotients were noted and ranked; grades in certain academic subjects were listed separately (mathematics, foreign languages, chemistry, and physics, English above the tenth year, and history above the tenth year); these lists also noted the number of recommending grades obtained by each of these students, and the institution to which each had been recommended.

Lists of students who were recommended to the University of California were made, their grades for the first semester were evaluated, and the students were ranked.

Questionnaires were given throughout the entire school regarding the attitude of students towards college. A questionnaire was also given to seniors as to their expectations with reference to college and to what might be done to avoid difficulties which they had encountered in high school. An extensive study was made of all available reports and articles dealing explicitly with the problem.

Findings and Conclusions. In the matter of selecting students for college the emphasis should be shifted from that of insisting on a certain group of subjects taken in high school to that of selecting the best type of individual.

The method of selecting students for college should be such as will not interfere with the efforts to make high schools render their proper educational service to the communities which support them.

The college should so adjust its admission requirements and its course of study as to permit the selection of the highest types of young persons who had demonstrated in the high schools their promise of leadership in various lines of human effort—in music, in art, in mechanics, in business, in literature, and in social service.

Higher institutions of learning should offer training in each of the fundamental fields of human achievement, and should then adjust their admission requirements so that they would secure from the high schools

the candidates who have the greatest promise of service and achievement in these fields.

The criteria for selection of college candidates should be character, mental ability, serious-mindedness, sustained attention to some one field of interest, and superior achievement in that field, plus potential qualities of leadership, rather than a fixed pattern of academic subjects.

Following are suggestions found to be significant in attaining the above mentioned goals:

A student with fifteen or more recommending units with a minimum of required academic units should unquestionably have the principal's recommendation to college. A student should have a total of at least twelve recommending units to entitle him to recommendation. Nine recommending academic units carefully distributed might be considered a reasonable minimum of academic units. The nine academic units might well be distributed as follows: two units in mathematics; two in foreign language; two in English; one in chemistry or physics; one in history (11th grade).

The importance of mathematics and foreign language is overestimated. The number of units in these subjects should either be reduced or omitted, and additional upper grade recommending units should be supplied in other specified academic units.

High school grades should be evaluated, and each student should be given a class rank and his quintile placement designated. This class record should not be published but should be available for office use only. It should be used with discretion.

Intelligence quotients should be obtained during the twelfth year, and each student should be given a class rank and should have his quintile placement designated on the class record. Where there is an apparent disagreement in the quintile placement as between scholarship grades and intelligence quotients, the high school grade placement should take precedence. However, it would be well to re-examine for intelligence placement.

A rating in character traits of each student should be obtained, preferably in the twelfth year. No particular traits are herein specified as being the most desirable. However, investigations are being made along this line and traits having predictive value may be ascertained. Reliability, accuracy, initiative, adaptability, force of pesonality, courtesy, and citizenship have been used by the writer.

The requiring of students to remain an additional time to make up deficiencies, is a doubtful procedure at best, but might be used in special cases.

42. Wilker, Edith. *An Analysis of Certain Tests of Mental Ability.* May, 1926. Pp. 50.

Problem. The present study concerns itself with two issues fundamental in any program of mental testing; namely, (1) May certain mental tests be used as an accurate basis for classification of people into homogeneous groups? and (2) May these tests be used in the prediction of success in English?

Materials and Procedure. The tests used in the study were: The Terman Group Test of Mental Ability, Form A; the Otis Advanced Examination, Form A, and the Miller Mental Ability Test, Form B, and the Herring Revision of the Binet Scale, Form A. In addition, the following achievement tests were used: Monroe Silent Reading III, Form I, and the Inglis Vocabulary Test, Form A.

These tests were given to 63 pupils enrolled in Senior English classes in the West High School, Cleveland, Ohio. The tests were administered by the writer and marked with care.

Findings and Conclusions. Though the average of the intercorrelations (0.62) was high, yet the mental tests showed average mental age for the group of 63 seniors ranging from 14 years 9 months to 19 years and 4 months. Evidently classification of pupils on the basis of mental age as obtained from tests is a hazardous and unscientific process. Initial classification should be rectified in accordance with observed educational achievement of pupils.

The Otis Test selects superior pupils with the greatest measure of accuracy; the Terman Test outranks the Terman and Miller Tests in predicting failures. The data of the study indicate that a high degree relationship between scholarship in English and Intelligence Scores cannot be expected. Achievement in English cannot, therefore, be predicted accurately by means of Intelligence Tests. Of the four mental tests used in the study, the Terman Test outranks the other three in predicting high scholarship in English and in predicting possible failures. It has a high correlation (0.66) with records in Inglis Vocabulary Tests; a marked correlation (0.44) with Monroe Silent Reading Test Scores; and a slightly higher correlation (0.49) with English grades.

43. Ziegenfuss, George Raymond. *An Evaluation of Methods of Predicting School Success in Mathematics.* June 1929. Pp. 97.

Problem. This study is an attempt to evaluate the different methods used in advising certain students concerning their continuance in mathematical studies, and to determine means offering practical possibilities of predicting future achievement in algebra and geometry.

Materials and Procedure. Analysis was made of the following procedures followed in Lincoln High School in giving pupil guidance in mathematics: (1) the pupil's intelligence quotient was looked up and if found to be sufficiently high he was given a trial; (2) in the case of geometry, the pupil's success in algebra was at times resorted to as a criterion; (3) success in other school subjects was sometimes the determining factor; and (4) whether the student wished to enter the university and the profession he wished to enter was at times a basis for guidance.

Analysis was made of answers to questionnaires on procedures followed in 22 of the other high schools of Los Angeles, and educational literature was examined to justify the bases that were found to exist in the Los Angeles high schools in predicting future success in algebra and geometry.

The Rogers Tests of Mathematical Ability as an adequate means of determining future success in mathematics was then evaluated, which was the most important phase of the study. In 1928 the test was given to the following groups of pupils in the Lincoln High School, Los Angeles, California: 120 9-A algebra students who had previously had five months of formal algebra, and 102 10-B geometry students who had previously had one year of formal algebra. The entire population tested consisted of eight regular classes, four in algebra and four in geometry. Precautions were taken to insure perfectly controlled conditions in all phases of the testing program.

Since the final correlations were to be based upon the grades of students taking the Rogers Test, the past record of the gradings of the teachers who had the subjects enrolled in their classes was investigated. The grade distribution of the teachers in algebra and geometry for the four previous semesters follows: geometry A's 16 per cent, B's 20, C's 31, D's 18, E's 18; algebra A's 11 per cent, B's 22, C's 32, D's 19, and E's 15. The Rogers Test scores obtained by the pupils taking the test were arranged in their proper ranking from high to low and the above percentages applied to the total number of pupils taking the algebra determined the number of cases that would fall under each grade prediction.

The grades predicted by the above method were correlated with the semester grades received by the pupils taking the test.

Correlations were computed to show the relationship between the separate parts, also combinations of the separate parts, of the Rogers Tests with semester grades in both algebra and geometry.

Correlations were also computed to show the relationship between intelligence and the Rogers Test totals in algebra and geometry.

Findings and Conclusions. From the results of the questionnaire sent to the 27 senior high schools of Los Angeles, California, the following bases for predicting future success in mathematics were found to exist: (1) the pupil's desire to pursue the course for the purpose of entering the university and the profession they wished to enter was a factor in all replies received; (2) a pupil's success in algebra when considering geometry was found to be a significant factor in 85 per cent of the schools; (3) the pupil's intelligence quotient was given as a factor in 71.0 per cent of the schools replying; (4) 52 per cent of the schools replying considered a pupil's success in arithmetic as a factor in their mathematical guidance; and (5) 9 of the schools replying considered a pupil's success in other school subjects as a factor.

The review of previous studies in the field of mathematical prognosis indicated that, in general, experts agree that no single factor should be used as a criterion in making a prediction of mathematical success; that traits other than intelligence and success in other school subjects must be considered when attempting to classify pupils; that the abilities demanded by the different types of mathematics, namely, algebra, geometry, and arithmetic, are essentially different; and that seemingly the only safe alternative lies in the use of all the information at our command from the records of success in elementary school subjects to the latest findings from high school activities.

Although experts differ in their opinions as to the value of the Rogers Test, the statistical findings of the study of various sections of the Rogers test as related to other prognostic factors indicate that this test has significant practical value in predicting success in 9-A algebra and 10-B geometry, if used in the following manner: (1) use a combination of the algebra, geometry, and interpolation sections of the Rogers sextet in predicting success in 10-B geometry; and (2) use the algebra section of the Rogers sextet in predicting success in 9-A algebra.

D. Articulation Between the Senior High School and the Junior College Levels.

44. Bertine, Florence M. *Means of Predicting Success in First Year College Foreign Language Work.* June, 1927. Pp. 62.

Problem. The problem of this thesis was to discover if possible criteria of value in predicting success in first year college foreign language work through a determination of the relationship existing between the grades made in first semester college language courses taken by students

at the University of Southern California and the following test records: Total Transmuted Scores on the Thorndike Intelligence Test for High School Graduates; the Placements in the Reading Comprehension Sections of the Test; the Placements on the Thorndike Total Transmuted Scores; and Previous Foreign Language Experience as shown from High School Records.

Materials and Procedure. The materials used in the investigation consisted of the records of 853 University of Southern California freshman entrants (1925-26) in the new series Thorndike Intelligence Examination for High School Graduates,—transmuted scores, placements by fifths of the total transmuted scores, of Reading Comprehension and of Linguistic Ability sections of the test, and (1) the college scholastic records of first semester French (99), Spanish (153), and German (30); freshman students who received credit for these courses, and (2) the total number of language units and recommended language units (B grade or higher) attained in high school.

Findings. The following table gives a summary of the relationships computed in the study. These relationships are indicated by correlation coefficients as follows:

	Correlation	P.E.
Thorndike Total Scores and Spanish Ia in College....	0.40	0.04
Thorndike Total Scores and German Ia in College....	0.22	0.06
Thorndike Total Scores and German Ia in College....	0.38	0.10
Placements in Reading Comprehension and Spanish Ia in College.....	0.40	0.04
Placements in Reading Comprehension and German Ia in College.....	0.68	0.07
Placements in reading Comprehension and French Ia in College	0.42	0.05
Placements in Linguistic Ability and Spanish Ia in College	0.50	0.04
Placements in Linguistic Ability and French Ia in College	0.43	0.05
Placements in Linguistic Ability and German Ia in College	0.63	0.07
Placements in Thorndike Total Examination and French Ia in College.....	0.44	0.05
Total Number of Foreign Language Units in High School and Spanish Ia in College.....	0.54	0.04
Total Number of Foreign Language Units in High School and French Ia in College.....	0.51	0.05
Total Number of Foreign Language Units in High School and German Ia in College.....	0.60	0.07
Number of Recommended Foreign Language Units in High School and Spanish Ia in College.....	0.54	0.04
Number of Recommended Foreign Language Units in High School and French Ia in College.....	0.63	0.04
Number of Recommended Foreign Language Units in High School and German Ia in College.....	0.50	0.09

As represented by the groups considered, the Thorndike Total Scores show a sufficiently high degree of relationship to grades in Spanish

la and German la to justify their use as a basis of guidance in predicting probable success in those courses. Although the Thorndike Total Scores are less significant in the prediction of probable grades in freshman French than in either Spanish or German, the placement records in the Thorndike Total Test are as valuable in predicting French grades as are the total transmuted scores for predicting grades in Spanish.

The placements achieved on the Reading Comprehension and Linguistic Ability sections of the Thorndike Examination are somewhat more closely related to foreign language grades than is the Thorndike test as a whole; Reading Comprehension shows a considerable correlation with Spanish and French grades, and a very high, though less reliable correlation with German grades; Linguistic Ability is more closely related to grades in Spanish than is Reading Comprehension, though this relationship is lower than the relationship found between Reading Comprehension and German grades; while Linguistic Ability and Reading Comprehension are equally valuable in forecasting grades in French.

The record of the amount of foreign language credit previously attained in high school is found to be no more valuable in predicting language grades in Spanish and German than are the Placements attained on the Linguistic Ability sections of the Thorndike Examination, although both the total number of Foreign Language Units from the High School, and the number of Foreign Language Units Recommended by the High School, show a closer relationship to French grades than does the whole or any part of the Thorndike examination.

45. Bettinger, George E. *A Study of the Transcripts of 250 College Entrants at the University of California at Los Angeles with Special Reference to the Reliability of the Criteria upon which the Recommendation was made.* May, 1928. Pp. 92.

Problem. Two hundred and fifty transcripts of entrants to the University of California at Los Angeles from the Alhambra, Pasadena, and South Pasadena high schools were studied to determine, if possible, a satisfactory standard upon which the principal of a high school may base his recommendation of a high school graduate for college entrance at the University of California at Los Angeles.

Methods and Procedure. The high school transcripts of the 250 graduates from the three high schools named were used along with the records of first semester college work to determine the variability of preparation at entrance as exhibited in high school scholarship scores and in recommended units (units of grade A or B), to show the relation of I.Q.s to scholarship scores, to correlate high school and first semester college scholastic success, and to test by means of first semester college success the validity of the criteria upon which the recommenda-

tions of entrants were made. A selection was made of 125 fully-recommended entrants (having 15 or more recommended units, i.e., of B grade or higher) and of 125 not fully-recommended entrants (not having 15 recommended units).

Criteria for recommendation were furnished by 60 California high school principals.

The average high school scholarship scores were found for each entrant for all four years, for the third and fourth years, and for the fourth year only. These scores were then placed in seven divisions and classified as to fully-recommended men, not fully-recommended men, fully-recommended women, not fully-recommended women, all fully-recommended, all not fully-recommended, and total group.

Findings and Conclusions. Of findings summarized in the study the following are most pertinent. Fully-recommended students excel not fully-recommended students in high school scholarship scores. The not fully-recommended group show marked progress in scholarship scores during the third and fourth years of high school work. In distribution of work, the fully-recommended group select academic courses chiefly and the not fully-recommended group tend to select non-academic courses where electives may be chosen. The fully-recommended group have an average of one unit more of work than the other group. The fully-recommended group tend to continue a subject for more than one term choosing music, graphic arts, and oral arts most frequently as non-academic electives. The not fully-recommended group apparently avoid, where possible, languages and mathematics. They do not tend to continue non-academic courses more than one term.

The following table shows placements in the upper two thirds and in the lower third of the University scholarship group for 250 entrants at the University of California at Los Angeles (125 having 15 units of B or higher and 125 having less than 15 units of B grade) distributed by number of entrance recommended units presented.

Number of entrance recommended units (B or A)	Number and Per Cent in upper two-thirds of college scholarship group		Number and Per Cent in lowest third of college scholarship group	
	Number	Per Cent	Number	Per Cent
15	108	86.4	17	13.6
14	6	50.0	6	50.0
13	13	50.0	13	50.0
12	7	33.3	14	66.7
less than 12	24	36.3	42	63.7
Totals	158	63.4	92	36.6

Among the significant items of the above table are the following: that high school graduates presenting to the University of California

at Los Angeles less than 15 units of B grade or higher do receive the principals' recommendation; that more than one-eighth of those who meet both of these entrance conditions fall in the lower one-third of the college scholarship group; that more than one-third of entrants having less than 12 units of B or higher place in the upper two-thirds of the college scholarship group; and that of this group of entrants 40 per cent of those having less than 15 units of B or higher though they would have been denied admission on this criterion alone actually placed in the upper two-thirds, in college scholarship, of the total group studied.

In consideration of the I.Q.s and scholarship scores, high school records, and first semester college records, a close relationship was found to exist between intelligence quotients and high school average scholarship records. The fully-recommended group uniformly was found to excel the not fully-recommended group in I.Q. divisions determined by mean, median, and quartile points. A high positive relationship was found between high school total averages and first semester college success, though first semester college records were lower than high school records. It is obvious, however, that high scholastic averages in high school do not with certainty predict high college grades. Evidently, to meet the 15 unit requirement for college recommendation, high school teachers tend to give higher marks than are warranted by subsequent college work. The total high school record seems a good criterion for predicting college success, while the third and fourth years are significant in predicting success for the recommended group, they are not significant for the not fully-recommended group.

The questionnaire results on reliable criteria for recommendation to college showed that principals felt the question of recommending students was a vital one. Seventy-five per cent of the principals agreed that 15 recommended units form a good basis of recommendation though but 66 per cent stated that they adhered strictly to this standard. Thirty principals (50 per cent) recommended on less than 15 units using as a basis of recommendation in such cases recommended work in the third and fourth years of high school, high I.Q., and seriousness of purpose of the applicant. Little uniformity was evidenced in subject requirements considered for recommendation by the 60 principals.

46. Edmondson, Paul Layton. *A Study of the Relationship between the Thorndike Intelligence Examination Scores and the First Semester Grades of Freshmen at the University of Southern California.* June, 1924. Pp. 108.

Problem. The purpose of this study was to determine the relationship existing between the Thorndike Intelligence scores and the first

semester grades of freshmen who entered the University of Southern California in September, 1923. To know this relationship, it was believed would clarify the problem of entrance requirements and of handling individual students with reference to their respective mental levels.

Materials and Procedure. The Thorndike Intelligence Examination for High School Graduates was given to 551 freshmen entering the University of Southern California in September, 1923. The results as scored on this examination were studied with regard to central tendencies and variabilities of the total group; and correlations were made to discover relationships between subject grades and intelligence scores of the entire group, between subject grades and intelligence scores of freshman groups, between intelligence scores and average scholarship, and between the several subject grades when intercorrelated.

Findings. The freshman men at the University of Southern California had practically the same average ability and spread of ability as the freshman men at the University of California and at Stanford. The freshman women at the University of Southern California had approximately the same average ability as freshman women at the University of California, but were more variable. Freshman men at the University of Southern California had a higher average ability than the Freshman women, but were about equally variable. The fully-recommended freshmen (15 entrance units of grade B or A) at the University of Southern California had a higher average ability than the not fully-recommended freshmen (12 entrance units of B or A but less than 15 such units) but were more variable.

For groups of equal size doing superior work in English, one student on the level "below 50" succeeded for approximately three on the level of "70 or above"; in Mathematics, this ratio was about 1 to 7; in Foreign Language, 1 to about 4; in Social Science, 1 to about 3; and in Natural Science, 1 to about 8.

For groups of equal size doing satisfactory work in English, one student on the level "below 50" succeeded to approximately 2 on the level "70 or above"; in Mathematics this ratio was 1 to 5; in Foreign Languages, 1 to 5; in Social Science, 1 to 3; and in Natural Science, 1 to 4.

For groups of equal size doing failure work in Natural Science to each student on the level of "70 or above" there were approximately 5 on the level "below 50."

The mean intelligence scores as well as the mean grades of the fully-recommended men and women enrolled in the several subjects excelled

the mean intelligence scores of the not fully-recommended men and women enrolled in corresponding subjects.

47. Hall, Walter A. *A Follow-up Study Problem of Chaffey Junior College Students.* June, 1929. Pp. 350.

Problem. The purpose of this study was to make a somewhat broad survey of the educational and vocational work of the former Chaffey Junior College students and to suggest applications of the findings to the junior college curricula.

Materials and Procedure. The study included all the students who entered Chaffey Junior College from 1916 to 1924 inclusive and who took six or more units of work during any one semester. It also included all of those who graduated in 1927. Data were used for 317 junior college graduates and 476 junior college drop-outs. The study was of a statistical nature. The chief sources of data were school records and questionnaires.

Findings and Conclusions. Nearly two-thirds of the entrants were residents of the local district, and seven-tenths were residents of the local county. The students came from 136 different high schools, and from 27 different states. Seventeen private schools and 24 junior colleges, and universities were represented. A large proportion of the entrants were not prepared to enter four-year colleges or universities. Less than one-half had 12 recommended high school units.

About one-third of the students took all academic work during their first semester and one-fourth took all non-academic work. Approximately one-third of all the credit hours taken were in the non-academic departments. In general, students with the better high school scholarship and those in poor financial circumstances tended to choose academic work.

Two-fifths of the students remained at the junior college until they graduated. One-fifth transferred to other colleges before graduation. Financial conditions, entrance to other colleges, and the securing of positions were the reasons most frequently given for dropping out. The junior college graduates had better high school and junior college records than did those who transferred to other colleges before graduation. Subject failure showed a decided effect upon the length of stay in junior college. The Chaffey High School graduates did better work in the junior college than did the non-Chaffey graduates, and the graduates of the large high schools better than those of the small high schools.

Almost one-third of the junior college drop-outs entered other colleges or universities. The junior college drop-outs entered 27 different

institutions, in 12 states. Teaching, commercial work, agriculture, and homemaking were the main occupations of the junior college drop-outs. They entered 52 occupations. The average salary for all of the junior college drop-outs was $1814 a year. Less than six-tenths of the junior college drop-outs now live within the Chaffey District.

Almost three-fourths of the Chaffey Junior College graduates entered other colleges or universities. About one-third of the junior college graduates who are vocationally employed are teaching; about one-fifth are in agricultural work; more than one-sixth are in commercial work; and one-seventh are housewives. They entered 36 different occupations. The mean annual salary of the junior college graduates was less than that of the junior college drop-outs. Those who continued their school work after graduation from the junior college had a mean average salary in excess of $300 more than that of the group which never entered other colleges or universities. If the graduates of the junior college remain in the local community after graduation the junior college is faced with the proposition of training its students for the vocations which are available in the commuinty. About two-thirds of the Chaffey Junior College graduates who are not still attending college, reside outside the Chaffey District.

The junior college graduates tended to take upper-division majors which were related, either directly or partially, to their junior college majors. The mean first semester upper-division scholarship average of the junior college graduates was 1.42 compared with their mean junior college average of 1.80. They made higher averages in the small four-year colleges than in the universities. The junior college drop-outs who entered other colleges made a mean scholarship average of 1.27 in the four-year institutions during their first semesters there. Their mean junior college average was 1.47. The junior college students who entered other colleges and universities tended to maintain the same relative standing in these institutions which they held while in the junior college.

The students as a whole are satisfied with the junior college work as preparation for upper-division work. Upper-division college work was entered by three out of four of the junior college graduates; by four out of ten of the junior college drop-outs; and by more than one-half of all the students who were included in the study. More than three-fourths of the junior college graduates and five-eighths of the junior college drop-outs who transferred to other institutions have graduated from them or are still in them as undergraduates.

More than one-fifth of the junior college graduates who graduated from colleges or universities have received their masters' degrees or

are taking graduate work for that purpose. About one in five of the junior college graduates who graduated from colleges or universities graduated with honors.

48. Libby, Philip Allan. *The Significance of Certain Groupings of the Test Elements of the Thorndike Intelligence Examination for High School Graduates as a Basis for the Prognosis of College Success.* August, 1929. Pp. 149.

Problem. The purpose of this study was to determine what relationships exist between total scores and certain groupings of the test elements of the Thorndike Intelligence Examination for High School Graduates, and first semester grades, in 20 of the most popular courses open to freshmen at the University of Southern California. Incidental to the main purpose, the findings of Dr. D. Welty Lefever from a similar investigation were checked and verified in order to render these findings of even greater value if found to be correct, or open the field for further study should they fail to agree.

Materials and Procedure. The data of the study were obtained from the test scores and first semester grades of 745 freshmen entering the University in the fall of 1927. The test elements of the Thorndike Intelligence Examination were grouped together to form five units or divisions named Reading Comprehension, Linguistic Ability, Mathematical Ability, Following Printed Directions, and General Information. These units were the same as were determined by a committee from the faculty of the School of Education under the supervision of the Director of Educational Research and Service. Students' subject grades were correlated with scores on the test as a whole and with scores on its several parts. Correlations falling between 0.35 and 0.44 were considered "marked" and those falling between 0.45 and 0.54 were considered "high."

Findings. As a basis for the prognosis of success, the test groupings are better than the total test scores in all but three of the 20 subjects considered in the study. The Linguistic Ability section has equal value with the total test scores in the prediction of general college success. The correlations found between total test scores and grades were high for Botany 1aL; and marked for Chemistry 2aL, Economics 1a, Economics 4, French 1a, and Spanish 1a. The correlation found between scores in Reading Comprehension and grades was high for Botany 1aL; and marked for French 1a, Philosophy 2, and Spanish 1a. The correlations found between scores in Linguistic Ability and grades were marked for Botany 1aL, French 1a, Geology 1aL, German 1a, Sociology 1, Spanish 1aL, and Zoology 1aL. The correlations found between scores in Mathe-

matical Ability were marked for Botany 1aL, Chemistry 21aL, Mathematics 4a, and Mathematics 5. None of the correlations between scores in Following Printed Directions and grades in any of the 20 courses were found to be either marked or high. A marked correlation was found between scores in General Information and Economics 4.

The Linguistic Ability section is of greatest value in the prognosis of success for the majority of subjects, while the Mathematics section is of greatest value in those courses involving the use of mathematics to a marked degree. Reading Comprehension shows a fairly consistent positive correlation for practically all of the subjects considered in this study. These correlations, as a rule, are so low as to have little prognostic value. Ability to Follow Printed Directions and General Information vary in importance but in the majority of cases have practically no prognostic value.

The findings of the study were in essential agreement with those of Dr. D. Welty Lefever. Because of the small number of cases making up many of the groups considered, the coefficients of correlation were somewhat at variance with those of Dr. Lefever but in nearly every case the order of importance of the test sections for prognosis was the same.

49. Maile, Robert Sherrill. *A Study of the Records of the Graduates of Manual Arts High School as College Entrants During the Year 1925-26.* May, 1927. Pp. 106.

Problem. The study was made to determine the relationships between high school records and first semester college scholarship success, considering intelligence test data, high school and college first semester scholarship records, teachers' estimates of students ability, extracurricular activities, and choice of subjects. Relationships which were determined were specifically between high school success and first semester college success, intelligence and college success, intelligence and high school success, Thorndike Examination results and college and high school success, teacher estimates of ability and college success, extracurricular activities and high school intelligence quotients, and specific high school subjects continued in college.

Materials and Procedure. During the academic year 1925, 144 graduates of Manual Arts High School, Los Angeles, entered colleges. Three withdrew before the end of the first semester. One hundred forty-one are considered in this study, 71 having entered the University of Southern California, 55 having entered the University of California at Los Angeles, and the remainder having entered other colleges. The latter group is treated together as a miscellaneous group. Scholarship

records were obtained fom the Registrars of the various schools; the Terman and Otis test results were obtained from the counselor at Manual Arts, as were also the teachers' ratings of ability of the graduates; the extracurricular activities were assembled from the Artisan, the semi-annual publication of the Manual Arts student body; and the Thorndike Examination results were available in the Educational Research office at the University of Southern California.

The data, tabulated on 6¼" by 10" cards, included the following items: (1) date of entrance to college; (2) date of graduation from Manual Arts High School; (3) registered in what course at college; (4) recommended in how many units; (5) intelligence rating: superior, average, below average; (6) other forms of intelligence rating; (7) record of first semester grades in college; (8) record of third and fourth years in high school; (9) teachers' estimate of pupil ability (intellectual capacity); (10) extracurricular activities; and (11) classification of students in the Thorndike Examinations (for those entering the University of Southern California only).

Findings and Conclusions. The comparisons of high school and first semester college scholarship records gave the following results: (1) at University of Southern California 52 per cent made lower scholarship averages in college than in high school; 42 per cent equaled, and 6 per cent excelled their high school records. In general, the men of this group did not do so well as the women, for 61 per cent of the men as against 42 per cent of the women fell below their high school records; (2) at University of California at Los Angeles 63 per cent made lower scholarship averages; 37 per cent equaled, and none excelled their high school records; (3) of the miscellaneous group 56 per cent made lower scholarship averages in college records than in high school; 31.5 per cent equaled and 12.5 per cent excelled their high school records.

The relationships between the fourth year of high school and the first semester college scholarship records gave a correlation coefficient of 0.43 ± 0.05, indicating that the fourth year high school work has medium reliability in the predicting of college success.

Mental ability as measured by the Terman and Otis tests in high school, and success in college as measured by grade averages for the first semester, indicate that in general intelligence of any level is associated with a corresponding degree of success in college.

For graduates who entered the University of Southern California a high correlation was found to exist between the I.Q. as determined by the Terman and Otis tests and the results of the Thorndike Examination as is indicated by a correlation coefficient of 0.77 ± 0.04.

The teachers' estimates of pupil ability have considerable validity, the correlation between them and college success being 0.53 ± 0.04.

The average number of extracurricular activities engaged in by pupils tended to increase as the I.Q. increased, though consideration of individual cases showed such a wide variation that it is the opinion of the writer that the correlation, though positive, is slight.

In considering the continuity and success of subjects continued from the high school into the first semester of college, it was found that 87 per cent of the group continued English, 6 per cent of those continuing doing better, 39 per cent doing as well, and 55 per cent doing not so well in college as in high school; 74 per cent of the group continued natural sciences, 10 per cent of those continuing doing better, 52 per cent as well, and 38 per cent poorer work than in high school; 61 per cent continued social studies, 7 per cent of this group doing better, 31 per cent as well, and 62 per cent not so well as in high school; 56 per cent continued foreign languages, 13 per cent of the group doing better, 46 per cent doing as well, and 41 per cent doing not so well as in high school; and 22 per cent continued mathematics, 16 per cent of those continuing doing better, 32 per cent as well, and 52 per cent not so well as in high school.

50. Nettels, Charles Henry. *Some Correlations between High School Grades, Thorndike Intelligence Examination Scores and College Success for University of Southern California Freshmen.* May, 1925. Pp. 103.

Problem. The study investigates the significance of such measures as high school grades, age, number of high school units of "college recommended" credit, size of preparatory school, and intelligence examination scores, as they affect the successes of first semester freshmen.

Materials and Procedure. Complete records of the measures under consideration were available for 498 freshmen after excluding all foreign students who were deficient in the use of the English language. These were added to the data of Edmondson who made a somewhat similar study based on 551 cases. Measures of central tendency, variability, correlations, and contingencies were established between the several groupings.

Findings. The men tended to excel the women in making high scores on the intelligence examination as only 39.1 per cent of the women excelled the median score of the men. The women tended to make better scholarship records both in high school and in college than did the men, 31.7 and 32.2 per cents of the latter excelled the mean score

of the former in the two cases respectively. The fully-recommended students (having 15 entrance units of grade B or A) largely maintained their superiority over the not-fully recommended students (having 12 to 15 entrance units of grade B or A) in college with respect to average scholarship scores.

Of the students who made averages of "F" and "D" grades in college, 29 and 24 per cents respectively were in the lowest high school scholarship groups, (i.e., Mark III on a scale having III, II, and I, as passing marks) while 7 and 9 per cents respectively were in the highest high school scholarship (i.e., Mark I) group. Of the students who made average grades of "B" or better in college, 3 per cent of the students were in the lowest high school scholarship group, while 26 per cent of the students were in the highest high school scholarship group.

The correlation between scores on the intelligence examination and high school scholarship records were: for men, 0.22 ± 0.04; for women 0.48 ± 0.04; for the total group 0.23 ± 0.04. The correlation between scores on the intelligence examination and college scholarship records were: for men, 0.36 ± 0.03; for women, 0.41 ± 0.04; and for the total group 0.31 ± 0.03. The correlation between high school scholarship records and college scholarship records were: for men, 0.30 ± 0.04; for women, 0.59 ± 0.04; and for the total group, 0.30 ± 0.03. It will be seen from the above that high school scholarship records and intelligence test scores were found to be in this case practically equally serviceable in predicting first semester college success. These relationships are considerably lower than have been reported by other studies. Also it appears that the women tend to do college work more nearly related to their ability as measured by the intelligence examination.

The correlations between high school scholarship records for the several groups of subjects and intelligence test scores, and between high scholarship records in the several groups of high school subjects and the corresponding college subjects varied from—0.03 ± 0.11 to 0.78 ± 0.03.

There was found to be a fairly high degree of probabilty of association between the age of students and their intelligence test scores, also between age and college success for the first semester. These coefficients of contingency in these cases were found to be 0.31 and 0.34 respectively. Students coming from the larger high schools tended to make higher scores on the intelligence examination and better grades for the first semester than those entering from the smaller schools. These coefficients of contingency were found to be 0.20 and 0.18 respectively. The number of academic units completed in high school apparently conditioned

the high school and college records of students. It also appeared that students with greater intelligence tended to complete more academic units in high school. The coefficients of contingency in these three cases were 0.22, 0.32, and 0.27 respectively. Students who completed the greater number of high school units with grades of "B" or "A" stood the better chance of making a success in their first semester. The coefficient of contingency was 0.37.

51. Seider, Dale. *A Study of continuity of Lower Division Enrollment in Relation to Selection of Scholastically Able Students.* 1928. (One part only of a master's thesis) Pp. 233.

Problem. A commonly quoted opinion is abroad to the effect that colleges eliminate their scholastically unfit early in the collegiate experience of their enrolled students. Scholastic unfitness is in most cases assumed to be the chief cause of elimination from college. The criteria for elimination are usually the low grades and failure marks recorded for students in college courses. If tests of scholastic aptitude are employed, they are used in the selection of students for enrollment, in guidance after enrollment, and seldom in elimination of students. Failure in semester grades and moral delinquency constitute the main causes for elimination after enrollment in so far as the college authorities are concerned. So far as students are concerned, the major reasons admitted for dropping out of college during the early semesters are lack of previous preparation, poor health, lack of funds, poverty of the college curriculum in relation to the student's interests, etc.

Possibly the most frequently assigned cause for elimination from college is the student's lack of mental ability or scholastic aptitude adequate for success in college courses. It is the purpose of this report to present certain data which indicate for one institution the changes in the mental composition of a group of enrolled students for a four-semester period.

Materials and Procedure. In the study upon which this report is based records are used of Reading Comprehension and Scholastic Aptitude for 576 college entrants of the University of Southern California. These 576 students constituted approximately two-thirds of the group of entrants of the fall of 1923. Though it is now the practice to require the taking of the Thorndike Intelligence Examination for High School Graduates by all college entrants, in the first use of the test in the fall of 1923, it was not required of entrants who presented 15 recommended units of high school credit—that is, 15 units of credit with B or A grades or their equivalent.

The study is, therefore, limited to a consideration of the continuity of enrollment in relation to initial records of scholastic aptitude for a group of 576 freshmen entrants of the fall of 1923, each such entrant presenting from 12 to 14½ recommended high school units. It is the conviction of the writer that the findings would not have been noticeably different if all freshmen entrants had been considered, for comparisons of the past three years indicate that approximately 40 per cent of the group which presents entrance credits of 12 to 14½ recommending grades equals or excels in general scholastic ability the median of the group which presents 15 or more units of recommending grade.

The specific records used are the total Thorndike test scores and the scores in the Reading Comprehension section of that examination—a section of the test which required one full hour of the three hours of time required for the total examination. All records were made at the time of entrance to college. No data from subsequent tests appear in this study. The measures of central tendency and variability used are the Mean and Standard Deviation records, respectively. These records have been computed for men and women separately from the initial test records for the groups in the first, second, third, and fourth consecutive semesters of enrollment. In each case the records are treated, both as for a single group and for the groups differentiated by certain subjects in which these students were enrolled for the several semester intervals. The subject-groups considered are English, Mathematics, Foreign Languages, Social Sciences, and the Natural Sciences.

Data on the number of cases considered, the mean score, and the standard deviation score records are presented in tabular form in the table which is given below (subject groups are omitted):

MEASURES OF CENTRAL TENDENCY AND VARIABILITY OF READING COMPREHENSION AND TOTAL THORNDIKE TEST SCORES FOR THE TOTAL AND SEVERAL DEPARTMENT GROUPS

Group Considered: 576 Freshmen Entrants of 1923 at University of Southern California. These entrants presented from 12 to 14½ units of B or A Grade

			Reading Comprehension				Total Thorndike Test			
	No.		Mean		S. D.		Mean		S. D.	
	M.	W.	M.	W.	M.	W.	M.	W.	M.	W,
1st sem.....	352	224	47.9	50.3	15.7	15.8	68.2	63.6	15.4	15.0
2nd sem.....	320	195	48.3	50.4	16.0	16.0	68.2	63.9	15.4	15.5
3rd sem	239	128	49.6	52.4	15.4	14.6	69.3	66.1	12.6	14.7
Two yrs.....	215	116	50.4	53.3	15.5	14.6	70.1	65.8	15.3	14.3

Findings and Conclusions. From the records (at the bottom of the table) on the successive semester enrollments for the "Total Group" of 576 entrants considered, the data show that the per cents of men remaining for the four semesters are 100, 91, 68, and 61, respectively, while the per cents of women remaining for the four semesters are 100, 87, 57, and 52 respectively. For the total group of entrants which remained through the first semester (including records for both men and women) the per cents remaining for the second, third, and fourth semesters are 94, 64, 57, respectively. The several per cents given above indicate that a considerable amount of elimination from the initial group has gone on before the close of the fourth consecutive semester of enrollment. This fact has real significance in connection with data which show the accompanying changes in the records on scholastic aptitude that are presented later.

The records (at the bottom of the table) for the total group indicate that the women read on the average from 2 to 3 points better than do the men, and in mean scores for the total test the several groups of men are from 3 to 4 points higher than the corresponding groups of women. The probable error of the difference in the first case is 0.91, and in the second case is 0.86. Differences of this amount are small and almost negligible, though they do approach statistical significance.

Throughout the four successive semesters the mean scores show that the elimination which has taken place leaves a group much reduced in size but only slightly superior (2 to 3 points) as regards ability to read the printed page and to do the several tasks for which general scholastic ability is essential. Through reference to the several columns of records of standard deviation for the scores used in the Reading Comprehension section and in the Total Thorndike Test, it appears that the sex groups are about equally homogeneous with the men just slightly more variable than the women. The changes in the standard deviation scores for the successive semesters indicate that a slight and almost negligible change has taken place in the homogeneity of groups through the several semesters even though a considerable amount of elimination is evident.

From the above observations, it seems reasonable to draw the following general conclusions:

On the whole as measured in Reading Comprehension by a part of the Thorndike Test and in mental ability by the Total Test, the several initial groups of men are slightly inferior to the women in Reading Ability, and somewhat superior in General Scholastic Ability. In each of these traits, the variability of the initial sex groups is not sufficiently different to be considered significant.

Though a considerable amount of elimination is evident in this group of 576 college entrants of the fall of 1923 before the close of the fourth consecutive semester of enrollment, yet on the whole the groups which comprise the students retained are only very slightly superior in both reading ability and general ability and approximately equal in homogeneity to the groups to which they originally belonged. In other words, the processes of elimination during the four consecutive semesters bring about only a slight degree of selection in the several groups whether the trait considered is reading ability or general scholastic ability.

52. Tawney, Katherine. *The Prognostic Value of Thorndike Intelligence Scores on College Success for Two and Three Semesters at the University of Southern California.* June, 1926. Pp. 288.

Problem. The investigation undertakes to find how well the Thorndike Intelligence Examination predicts success or failure for the second semester, the third semester, the first year, and the first three semesters of college as well as how accurately this examination predicts success or failure in the several academic subjects, and finally to find the relation that may exist between the examination scores, grades, and student mortality.

Materials and Procedure. The data consist of the scores on Thorndike Intelligence Examination for High School Graduates and the grades of 551 students at the University of Southern California who entered in 1923. Of these students 341 completed three semesters of work. The data were primarily grouped according to the length of time the student continued in the University. Students falling in these groupings were called "one-semester students," "two-semester students," and "three-semester students." Secondary groupings were made of "fully recommended" and "not-fully recommended" students. Fully recommended students were those who entered the University with 15 or more units of grade "1" or "2" in high school work. Not fully recommended students had between 12 and 15 units of grade "1" or "2". Further sub-groupings were made according to sex. Analyses were made of combinations of these categories.

Findings. There is a positive, though low, correlation between the intelligence scores of students and college grades, except for a small group of not-fully recommended women who continued in the University only one or two semesters. Considering the nature of the measures and the findings of other studies using similar data, the writer felt justified in interpreting correlations above 40 as "moderately high." The correlations between the intelligence examination and grades for all students

included in the study were as follows: for one-semester students the correlation with high school grades was 0.23, and with first semester grades was 0.31; for two-semester students with first semester grades the correlation was 0.35 and with second semester grades was 0.20; for three-semester students with first semester grades the correlation was 0.32, with second semester grades was 0.18, and with third semester grades was 0.70. The probable error of each case was less than $\pm$ 0.05. For fully recommended students, correlations in the classifications as listed for the total group were somewhat higher, and for not-fully recommended students somewhat lower. In every case except that of one-semester students scores on the test of both fully recommended men and fully recommended women correlated to a higher degree with grades than did similar measures of not-fully recommended men and not-fully recommended women. The range of the correlations between scores on the test and grades of all men was from 0.20 $\pm$ 0.02 to 0.70 $\pm$ 0.02. Similar correlations for women ranged from 0.31 $\pm$ 0.05 to 0.62 $\pm$ 0.03.

It was found that in all cases, except that of the total group of women and the group of the fully recommended women, that the coefficients obtained from correlating intelligence scores with high school grades were lower than correlations between intelligence scores and first semester scholarship scores.

Study of the relationship between intelligence scores and subject grades revealed a marked positive relationship between the two. Compared with students falling in the lowest fourth intelligence it was found that for students falling in the highest fourth in intelligence there was four times the probability of making "B" or higher grades in second semester English; somewhat better than equal probability of making a grade of "B" or higher in mathematics in the second semester; twice the probability of making a grade of "B" or higher in second semester foreign language; three times the probability of making a grade of "B" or higher in second semester social science; and a similar probability in second semester natural science.

Investigation of the causes of student mortality revealed that of the entire group that survived one semester but did not survive three semesters, 53 per cent were below the average in scholarship indicating thereby little relationship; of the fully recommended group of men, 59 per cent were below the average in scholarship; of the not-fully recommended group of men, 83 per cent were below the average of the entire group in scholarship; of the fully recommended women, 24 per cent were below the average of their group in scholarship; and of the not-fully recommended women, 80 per cent were below the average of their entire group in scholarship. It is probable in the light of the

above findings that in the case of fully recommended students poor scholarship was not usually the primary cause for dropping out of college, but in the case of not-fully recommended students it was usually an important factor influencing this decision.

53. Trenham, Newton Bradford. *A Critical Study of the Factors Influencing the College Scholastic Record.* May, 1926. Pp. 75.

Problem. The problem of the study is to make a critical examination of the lives, activities, and interests of the entering freshmen at the University of Southern California.

Materials and Procedure. The data of the study are the answers to a questionnaire returned by 673 freshmen in the fall of 1925. The questionnaires were circulated in the Orientation classes, where the students were instructed that their answers would not affect class grades and were further asked to sign the blank certifying that the responses given were answered to the best of his knowledge. The questions, which were 16 in number, related to time spent in the college program, inquiries as to language handicaps due to foreign birth, the length of the interval since leaving high school, the time spent in outside work at home and for wages, the student's health, athletic and social activities, hours spent in sleep, and scholastic interests and difficulties. Where unusual answers were given to questions on the questionnaire, these were carefully checked in conference with the student. The responses were then tabulated and analysed.

Findings. Responses from the 409 men indicated that the time spent in scholastic work ranged from 10 to 84 hours weekly with the median 37.2. Responses from the 261 women indicated that the time spent in scholastic work ranged from 20 to 80 hours weekly with the median 38 hours. The students reporting fewer than 20 hours spent in academic work weekly, were found to be carrying less than a full load.

It was found that 59.2 per cent of the men were wholly or partially self-supporting, and the number of hours spent in outside work ranged from 2 to 60 per week. The 234 men working held 51 types of jobs. It was found that 14 per cent of the women were wholly, or partly self-supporting while in college, and their employments were practically all included in the clerical and domestic branches. The time spent in outside work ranged from 2 to 48 hours per week with the mean 13 hours.

The amount of time devoted to home duties by the men ranged from 1 to 40 hours per week with the median 6.7 hours, while the

amount of time devoted to home duties by the women ranged from 2 to 30 hours per week with the median 8.3 hours.

Replies to the questionnaire revealed that 54.9 per cent of the men and 72 per cent of the women devoted no regular time to athletic activities; of those who did participate the median time for the men was 5.4 hours weekly and for the women 2.9 hours. Inquiries relating to time devoted to special interests such as drawing, debating, music, dramatics, and journalism, showed that 41.7 per cent of the men spent no regular time in this way, while 23.8 per cent of the women did not share in these activities; of those who did take part, the median time for men was 5.5 hours weekly and for women 5.6 hours. Of time spent in amusements 6.6 per cent of the men and 3.4 per cent of the women reported spending no time in this way; of those who did report time occupied the median for men was 4.7, and for women 6.7 hours weekly. Fraternities and sororities occupied none of the time of 40 per cent of the men and of 34.5 per cent of the time of the women; of those who apparently belonged to such groups the median times spent in this way was 4.7 hours per week for men and 4.5 hours per week for women. In the cases of 34.5 per cent of the men and 40.6 per cent of the women, there was no participation in religious activities reported; of those who did participate, the median time occupied in this way was 20 hours weekly for men and 2.2 hours weekly for women.

Both men and women reported being in good health, the percentages being 92.9 and 92.3 respectively. The time devoted to sleep for men ranged from less than five hours nightly to ten hours with the median 7.9; for women the range was the same and the median 8.0 hours.

In the cases of men, 61.9 per cent had gone directly from high school to college, while 14.1 per cent had allowed an interval of one year to elapse. In the cases of women, 77 per cent had gone directly from high school to college while 8.4 per cent had stayed out of school for one year.

Several correlations were calculated between the factors set forth above. The correlation between the number of hours spent by men in self-support and the number of hours spent in scholastic work was 0.48. Apparently students who have to work for self-support do not neglect their scholastic duties. There was found to be a positive but somewhat low degree of correlation between the time devoted to scholastic activities and grades received,—namely, a correlation of 0.37 for men. The corresponding correlation for women was found to be 0.62.

PART V. CITIZENSHIP DEVICES, MORAL TRAINING, AND MERIT PLANS

79. Cline, Edward C. *The Merit System in California High Schools.* March, 1926. Pp. 58.

Problem. The study undertakes to find: the extent to which merit systems are in use in California high schools, the specialized types of merit plans used, and the opinions of educators as to the value of such plans. From these data and from available literature on the subject, the study sets down certain principles which underlie the merit systems in use and proposes a merit system which embodies the educationally sound procedures revealed by the study.

Materials and Procedure. A questionnaire was sent to some 100 high schools in California asking for details of any plan in use and comments relative to the value of the plan. One year later a second questionnaire was sent to the schools replying to the first one in which questions were asked relative to the future plans of the school in using the merit system. On the basis of the data received from the second questionnaire, a summary is made of: the use of such systems; the mechanics and principles underlying merit systems; and an outline of a proposed merit system based on this summary.

Findings and Conclusions. The data seem to justify the following conclusions:

1. The merit system seemed to be in successful operation in practically all the high schools into which it had been introduced.

2. The use of the merit system was being rapidly extended in 1925-26. Ten schools reported that the merit system had been introduced within the past year.

3. It is possible to work out a merit system that can be introduced into any high school, which with proper administration may reasonably be expected to be successful.

4. That it is advisable to start each pupil each semester with 100 merit credits then deduct merit credits where offenses are committed.

5. The following major offences should be provided for in listing ways in which merits can be lost: unexcused absences, unexcused tardiness, cutting classes, leaving the school grounds without a permit, and major items of misconduct such as smoking, lying, stealing, and cheating. A definite number of merits should be lost for each offense.

6. Provision should be made for making up lost merit credits but to accomplish this the pupil must be made to do considerable work of a citizenship nature.

7. The merit committee in charge of the system should be made up of 3 pupils and 3 teachers and should hold meetings at a definite time and place each week, to hear appeals for loss of merits. Final control should remain with the principal.

8. When a pupil is given a loss of merit slip it should be made out in full by the person issuing it and should show the offense and the penalty recommended.

9. The local board of education must approve of the suspension and non-graduation features of a merit plan before these features are put into operation.

10. The plan should be operated in such a way that the pupil is brought to feel that the loss of merit credits is certain to follow an offense.

80. Coombs, Ann Amelia. *A Study of the Purposes, Methods of Classification, and Plans of Activities of the Home Room as Presented in Educational Literature and the Practices of the Los Angeles Junior High Schools.* June, 1929. Pp. 79.

Problem. This study attempted to determine the purposes, methods of classification, and plans of activities for the junior high school home rooms as presented in educational literature and evidenced in junior high school home rooms in the Los Angeles City Schools.

Materials and Procedure. The sources of information have been books and magazine articles; observations on the conduct of the home room in various schools; and interviews with principals, counselors, and home-room teachers in Los Angeles junior high schools.

In the interviews questions were asked about the home room to secure the data upon which this thesis was based.

Findings and Conclusions. Investigation of junior high school home-rooms as presented in educational literature revealed the following purposes: (1) to handle junior high school enrollments by dividing them into small units for checking attendance and for obtaining necessary information concerning pupils for office and library; (2) to direct pupils in their various school activities; (3) to give pupils social contacts and to develop personal qualities; (4) to inform pupils as to rules, customs, and traditions of the school; (5) to inquire into the home conditions, state of health, play habits, work habits, and study habits of the pupils; (6) to further a friendly, cooperative spirit between pupils and

teachers; (7) to advise pupils as to wise and correct conduct; and (8) to transact the routine business of groups and of the school.

Some methods of classifying pupils into home rooms are: (1) by intelligence or ability; (2) alphabetically either by grades or from total enrollment; (3) by sexes; (4) by number of credits; (5) by activities; (6) by grades or by the elementary school last attended; (7) by curriculum interests; (8) by nationality; and (9) indiscriminately by chance.

Plans of activities: (1) electing home room officers and assistants; (2) carrying on the business routine activities; (3) preparing programs for instructional purposes; (4) fostering activities for inspiration and enjoyment; and (5) having contests and campaigns.

Investigation of the Los Angeles junior high school home rooms revealed the following:

Purposes: (1) to develop social skills, social contacts, school morale, personal qualities, and proper modes of conduct; (2) to guide students in educational and vocational opportunities; (3) to educate students in rules, regulations, and customs of the school; (4) to check attendance, keep records, and read daily announcements, bulletins, or notices; and (5) to elect class officers and discuss school activities.

A study of the methods of classifying pupils into home rooms reveal: (1) 45 per cent of Los Angeles junior high schools assign pupils to home rooms on the basis of ability and grade, segregating sexes; (2) 33 per cent on the basis of ability and grade only, without segregating sexes; (3) 5 per cent on the basis of grade only, segregating sexes; and (4) 16 per cent on the basis of grade only, without segregating sexes.

The more common and important plans of activities found in Los Angeles junior high school home rooms are: (1) electing home room officers and assistants; (2) checking daily attendance and making announcements; (3) attending to various records, statistical data, and information needed by home room teacher, library, and office; (4) arranging conferences with pupils and parents to investigate the causes of failure and poor discipline; (5) informing home room groups about courses of studies; (6) discussing requirements for graduation and for entrance into higher institutions; (7) discussing various topics of interest; (8) reading; (9) having entertainments; (10) club activities; (11) having school campaigns and contests; and (12) planning and doing charity work.

81. Cummings, Lillian Gibson. *Trends in Administration of Conduct since 1865.* May, 1928. Pp. 99.

Problem. This study examines the historical basis for the various systems that have been used in administering conduct, to discern wherein previous systems failed and to endeavor to discover the superiorities of the informal system if any and the extent to which its operations may be applied practically to modern educational needs.

Materials and Procedure. A thorough examination was made of all available sources in books and journals, representing the best relevant thought along philosophical and educational lines. The connotations of the expressions "conduct," "discipline," "school management," and "school administration" were carefully studied and analyzed. Personal interviews with principals of various Los Angeles schools and with other school administrators yielded information as to the practical applications of the principles of administration of conduct in the schools today, and have resulted in an evaluation by these administrators of the strength and weakness of formal and modern discipline and of the modern methods in the administration of conduct, together with a consideration of the importance of good conduct social life in our democracy and in the school itself.

Conclusions. Summarizing the progress of the administration of conduct in the last seventy-five years, it is found that the method of control has been revolutionized, in that control has grown from the old idea of punishment to the new idea of positive incentives to right activity; this has permitted greater development of the child with accompanying better educational results and improved conduct.

A thoroughly stratified society in the seventeenth century put its mold on the few who enjoyed the privilege of an education; a few pioneers voicing the discontent of the masses indicated in a crude and imperfect way the direction to be taken by educational reform. It cannot be said that the prevailing administration of conduct in the time of Pestalozze, Froebel, and Herbart was chaotic; it had well defined objectives and trends which were so deeply entrenched that their last vestiges have not yet disappeared. The central purpose was to secure a certain course of human behavior through the means of such austere disciplinary methods as Latin memorizing and corporal punishment. It was the antithesis of the concepts held today of behavior and its means of realization, since the present concept involves the use of ideas and things with which the student is familiar. The theory that interest may be forced, either by outward compulsion or by an inward exercise of the will, as Herbart taught, has been definitely shown to be fallacious.

"Self activity and social participation" represent the tendencies sought and fostered since about 1892. The trend has been away from the introduction of religious ideas and towards the influence of the school life as a basis for moral training; this element is the major point on which Dewey came into conflict with the original Herbartian plan.

At present, full advantage is taken of the knowledge that the child is a social being; school becomes a miniature society dealing with situations which approximate the situations of adult society. Socialization is considered as of more value than book learning; the scope of the curriculum is constantly enlarging to meet the needs and interests of the individual student and definitely includes preparation for the responsibilities of citizenship by participation in the self-governing activities of the school.

The following school agencies are designed to exert a marked influence on conduct:

Curricular agencies include making subject matter interesting by fitting material to the child, sewing and cooking, shop, music, drawing, gymnasium, printing, gardening, and the like;

Extracurricular agencies include student government administration, athletics, musical organizations, dramatic club, foreign language clubs, traffic squads, boys' week activities, literature club, boy scouts, camp fire girls, supervised playgrounds, debating societies, journal clubs, nature clubs.

Among other agencies influencing conduct materially may be named the following: medical examinations, welfare centers, social service workers, probation officers, juvenile courts, Parent-Teacher Associations, and adult education.

82. Doig, L. L. *Citizenship Devices Used in the Senior High Schools of California.* June, 1930. Pp. 72.

Problem. Existing forms of high school merit systems are here considered in an attempt to find one, the results which, from the standpoint of school citizenship, will be satisfactory. An original system is outlined which is in successful operation at Garden Grove High School.

Materials and Procedure. Available reading materials bearing directly or indirectly on school citizenship, the honor system, the merit system, and school self-government were examined. To supplement this reading with information as to the plans actually in use in the state and their operation, a questionnaire was sent to 285 principals of senior

high schools in California, to which 262 replies were received. The original plan was devised in an attempt to make the merit system subserve real citizenship ideals.

Findings and Conclusions. General conclusions arising from this study are: Training for citizenship is an important objective of education; training for citizenship in the schools can best be acquired by practice in student organizations and through student methods; devices such as the merit system are intended to help train for citizenship; school citizenship devices should present a broad citizenship, should encourage action, should develop cooperation and should inspire leadership and initiative; not all citizenship plans found in the high schools of California do fully measure up to these standards.

The plan suggested by this study is administered by the Student Council through three agencies: the citizenship rating clerk, who collects data and compiles citizenship rating; the faculty advisory board, whose members grant citizenship points on the basis of an established classification; and the student court, whose officers are elected by the student body and which deals with all cases involving the violation of student body rules and minor cases of infraction of school rules. This court may assign deficiency points or refer cases to the principal for action; provision is made for an appeal from its decisions to the Student Council. Failure to maintain a high citizenship point rating carries with it such penalties as ineligibility to class or student body office or position of leadership, forfeiture of such position if the student already holds it, and the failure of the school to recommend the student to any college.

Citizenship points are awarded under two classifications. In personal characteristics and student spirit, the student earns points on the following items: courtesy and good manners; good work habits; punctuality; coöperation with faculty; coöperation with students; and initiative and leadership. Awards range from 0 to 10 on each item, the points being computed by the adviser from individual teacher reports. In activities, the student may earn points on the following items: scholarship; athletics; public speaking and dramatics; news and annual work; office holding; musical organization work; club membership; and special acts of good citizenship. Awards range from 0 to 10 on any item, are matters of record, and may not exceed a maximum of 40 points.

The plan as presented was drawn up to meet the shortcomings of a merit system, which proved to be excellent as a disciplinary device but poor as a citizenship plan. The scope of this plan is as broad as the school life, and considers school citizenship from the three-fold aspect of activity (both curricular and extracurricular), leadership, and coöperation. The device used to determine demerits serves as a check and has

more disciplinary than citizenship value. There is enough of self government inherent in the plan to develop leadership and to encourage initiative.

83. Harper, Byrl D. *A Critical Analysis of Certain Merit Systems.* May, 1928. Pp. 75.

Problem. The study undertakes to determine the worth and the scope of the merit system in the light of the following questions: Is the merit system a means of discipline or a measure of behavior? Will the merit system accomplish the results ascribed to it or does it point out results due to other causes? Briefly, is the merit system sound psychologically and sociologically, and is it a reliable measure of citizenship?

Materials and Procedure. The principles of psychology and sociology which are implied or involved in the merit system were gathered from a perusal of literature in these fields. As a check on these findings the merit records of a certain high school were analysed. These records covered a period of three years and for one year included the original loss of merit slips. These slips gave the nature of the offense, penalty, and the name of the teacher who gave the slip.

The basic concepts of the merit system were weighed against the principles of psychology and sociology that were found to be applicable to it. Then the functioning of the system was studied as to: the number of demerit slips given by each teacher, a comparison of students merit records for six successive semesters, and the relationship of merit records to school grades and intelligence quotients.

Findings and Conclusions. Relative to the sociological principles involved in the merit system it was found that: the pupil who is out of harmony with the social group called the school, bears the same relationship to the school that the criminal does to society at large. Both are out of social adjustment, both are out of harmony with the ideals and standards of the group, both break group rules. The principles that have been worked out as being the best for the treatment of the criminal should apply to the unadjusted school citizen. The merit system is not well suited to the principles of individualization. It rather conforms with the old system of set penalties. The merit system does not incorporate the indeterminate sentence, does not usually provide penalties on the basis of scientific investigation, does not usually employ experts in pupil adjustment to fix sentences, does not always punish in order to readjust the individual, does not use the punishment that is best suited to the individual, but rather is limited to a set penal code, and does not locate or handle the potential maladjusted pupil.

Relative to the psychological principles involved in the merit system it was found that the system obeyed the following well established laws:

the law of use; the negative side of the law of effect; and the law which may be stated, "the reflex resulting from two simultaneous conditioned stimulii is more powerful than when only one is used." The merit system fails to utilize the following laws: "learn the act in the way in which it is to function in actual life"; "a conditioned reflex established to any given stimulus does not lead to the formation of other conditioned reflexes"; the latent period of response (the time interval between stimulus and response) in a conditioned response is the same as the interval between two stimulii"; "the rate at which the conditioned reflex becomes established is correlated with the strength of the conditioned stimulus." Failure of the system to obey these psychological laws throws it open to the criticism that it is artificial; thus its effectiveness as a conditioning stimulus is limited to the value that the pupil places upon it; it is a waste of effort as far as results in later life are concerned; and since in the best of merit systems the real punishment comes with the loss of privilege, which is far removed in time from the original offense, the system falls down of its own weight.

Checking the school records available, further doubt is cast on the system. In its favor, it was found that the system is fairly reliable. Correlations of students' merit records for six successive semesters were found to be 0.62, 0.49, 0.60, 0.41, 0.38, with probable errors of 0.05 in each case. Thus if citizenship is measured, the system does so one time in about the same manner that it does another. These correlations also suggest that there is a tendency for students to become more inconsistent in their reactions to the merit system the longer they are in contact with it. This means either of two things. Either the system is not a true measure of citizenship, is not valid in other words; or the longer the pupil is in contact with the system the poorer his citizenship becomes. Since the latter assumption seems unfounded to sensed judgment, the former is more tenable. Further evidence supports this suggestion that the system is not a valid measure of citizenship. The distribution curve of merit records is badly skewed towards the higher scores suggesting that the system is not giving a complete picture of citizenship in the school. Teachers vary so greatly in their policy of giving loss of merit slips that it is doubtful if they should give them at all. During a single semester, two teachers gave 99 and 98 such slips while 7 teachers did not give any. There is practically zero correlation between merits and intelligence quotients. There is about the same relationship between grades and intelligence as between grades and merits.

On the whole the merit system seems to be a measure of citizenship of doubtful validity, and its disregard of certain psychological and sociological laws probably make it less effective in bringing about certain

84. Merryfield, Mrs. Glenn Bovard. *A Study of the Trend of Giving a Place to Moral Training in the High Schools of California.* August, 1928. Pp. 176.

Problem. This study was chosen because of the paramount importance of teaching right attitudes, the universal interest in the subject or moral training, the present demand for its proper and adequate handling in high schools, the new and scientific methods for considering it, the variance of convictions about the systems to be used, and the hope of gathering and sorting interesting information that may help in promoting the best results in teaching morals. The purpose of the study was to assemble known facts in order to present clearly the history of the subject, to furnish a background for the situation in California, to present and relate the different efforts made in California, to gather firsthand material showing the viewpoints of two generations, and, if possible to reveal present trends.

Materials and Procedure. A review of the history of character building in the United States from 1787 to the present time was accomplished by reading educational journals, books, articles, and reports published on the subject. A special effort was made to consider writings on the matter from 1900 to 1928, and to sort out statements which showed methods and changes. To find out the situation in California, 41 high school principals and 43 high school teachers were interviewed. Replies were written on questionnaire blanks and later tabulated. Questionnaires were sent to 200 students enrolled in universities or colleges in California in an attempt to find out to what they attributed their moral improvement during their high school course just recently past. One hundred sixty-eight replies were received. To learn the different city and county plans of teaching morals, interviews were held with leading educators and a special study was made of pamphlets which explained their treatment of this phase of teaching.

Findings and Conclusions. With the arrival of the twentieth century came a recognition of a need to relate morals to life by connecting them with activities, California is actively engaged in promoting this movement, as is shown by the activities of her leaders in passing laws, stressing its importance in institutes, writing articles, establishing definite city plans, sending messages to teachers, trying new methods of emphasis, making exhibits, expressing definite aims, and studying the problem scientifically.

From data collected from replies given in interviews and on questionnaires, the following conclusions were drawn: (1) although teachers of English, science, physical education, and social science rank high in giving inspiration to improve character, moral training has a logical place in every department; (2) books, poems, lives of great men, study

of the laws of nature, plays, clubs, Hi-Y's, the Y. M. C. A., class clubs, and assemblies are effective factors in moral training; (3) a large proportion of secondary teachers have moral training as a definite aim of their department; (4) "preaching" should be avoided; (5) principals, superintendents, classes, subject matter, and the National Educational Association are stimuli to teachers to improve the personalities of the children; (6) although there is a growing need for moral training in the high school, neither the plan of a formal course of ethical instruction nor the plan to legislate moral training into one of the English courses is acceptable to the majority; (7) the religious element in high school teaching is not favored but is being considered; (8) the personality of the teacher is a potent moral influence, as the feeling is strong that teachers should be (broadly speaking) religious and have strong moral convictions; (9) a plan for giving teachers a course in how to teach morals is being considered; (10) teachers as well as college students consider the English teacher the most inspirational; (11) the present method of handling moral instruction is considered by most principals as haphazard, unsystematic, and somewhat unscientific; (12) more personal counseling should be given by a specially trained teacher, a dean, the home-room teacher, the principal, or a physical education teacher; (13) the present situation would be improved by educating the parents, making more effort in the social science department, rating of character traits, having a system of advisers, arranging socialized situations, orientation courses, or making moral training a part of every course.

The feeling is growing that moral education is best done through activities that will tend to help in the public welfare; and the trend seems to be for each teacher to work for the improvement of morals indirectly or directly whenever his department gives him opportunity.

85. Riley, Thomas Milton. *The Junior High School Merit Plan.* May, 1927. Pp. 87.

Problem. The object of the study was to establish a criteria for the design of a junior high school merit plan based on sound psychological and sociological principles and on the opinions and practices of junior high school administrators in California.

Materials and Procedure. A brief questionnaire was sent to all the junior high schools in California, from which information was obtained of these school administrators as to the value of merit plans. From a study of literature relative to discipline, basic principles of such schemes were formulated. Information on the nature and detailed structure of merit plans now in use was obtained from a second questionnaire sent to schools reporting the use of such devices. Next from

these data, elements forming the basis of worthy merit plans were assembled. Finally on the basis of these findings a merit plan was designed for John Muir Junior High School, Los Angeles, which plan included a program of group remedial instruction.

Findings and Conclusions. The merit system designed for this school was based on attendance only. Conduct, in and out of the classroom, and scholarship incentives were being adequately cared for by safety and grounds committees, and by an honor society. To limit the application of the plan was thought very desirable, for if conduct, scholarship, and attendance are combined the scheme tends to become unwieldy.

At the beginning of the semester each pupil was to be credited with 100 merits. Merits varying in amount from 3 to 10 were to be deducted for several infractions of attendance regulations relating to unexcused absences and tardiness. Students who had lost merits were to be permitted to earn them back by attending merit meetings which were to constitute a special class in citizenship meeting Monday afternoons at the close of the regular classes. Rewards were to be in the form of a banner which was to be awarded to the class which had the highest standing in merits and scholarship. Penalties were to consist of attendance at merit meetings, and non-attendance at extracurricular clubs during the period between merit meetings. Students having an average merit record below 90 were not to be allowed to run for student offices. Where the average merit record was below 70 for the semester, students were to be denied the privileges of graduation.

The plan was to be administered through a merit committee. The homeroom teacher was to report losses of merits weekly to the school office on a form to be provided for the purpose. These returns were to be transferred to a student's individual merit record card. It was suggested that some teacher or officer be assigned a part of her time for this work.

The merit meetings were intended to take the place of a detention room and to give opportunity for remedial discipline. The lessons which were outlined were based on the belief that misconduct on the part of the pupil is not caused by lack of knowledge of proper conduct, but by failure to stop and anticipate the results of misconduct. An attempt has been made so to organize the materials used that the child will think of his activities in terms of established standards of conduct. The lessons outlined for use in citizenship meetings are entitled: Industriousness, Honesty, Conduct, Obedience, Sportsmanship, Cleanliness, Self Control, and Respect.

DEPARTMENT OF SECONDARY SCHOOL PRINCIPALS OF THE NATIONAL EDUCATION ASSOCIATION

President, Louis E. Plummer, Principal, Fullerton Union High School and Junior College, Fullerton, California

Secretary, Harry V. Church, Superintendent, J. Sterling Morton Schools, Cicero, Illinois

PROGRAM

Meeting in Detroit

February 22-26, 1931

GENERAL THEME: "The American Public Secondary Schools,—The Agency of Democracy"

First Session

Monday, Feb. 23, 2:00 p. m., Ballroom, Hotel Tuller

Presiding, Louis E. Plummer, Principal, Fullerton Union High School and Junior College, Fullerton, California

Music—Furnished by Department of Music, Detroit Public Schools, Dr. Fowler Smith, Director Thirty minutes

Theme: "The General Philosophy Underlying Secondary Education as an Agency of Democracy"

"The Philosophy of General Education," Dean W. W. Kemp, School of Education, University of California, Berkeley, California Thirty minutes

"The Philosophy of Secondary Education," C. H. Threlkeld, Principal, Columbia High School, South Orange, New Jersey Thirty minutes

Discussion, led by M. G. Jones, Principal, Huntington Beach Union High School, Huntington Beach, California Thirty minutes

Second Session—Junior-High-School Section

Tuesday, Feb. 24, 9:30 a. m., Egyptian Room, Hotel Tuller

Presiding, F. R. Born, Principal, Webster Junior High School, Oklahoma City, Oklahoma

"The Functions of the Junior High School in a Democracy," Galen Jones, Assistant Superintendent, Tulsa, Oklahoma

"The Secondary-School Principal as a Supervisor," Rudolph D. Lindquist, Assistant Superintendent, Oakland, California

"The Ohio Program of Guidance for Junior High Schools," Dr. D. H. Eikenberry, Ohio State University

Second Session—Junior-College Section

Tuesday, Feb. 24, 9:30 a. m., Ballroom, Hotel Tuller
Presiding, E. E. Oberholtzer, President, Houston Junior College, Houston, Texas

Theme: "The Public Junior College as an Agency of Democracy"

"Democratic Support—The Financial Aspect," Dr. Walter C. Eells, Leland Stanford University, Palo Alto, California Thirty minutes

"Democratic Support—The Social Aspect," Doak S. Campbell, Peabody College, Nashville, Tennessee Thirty minutes

Discussion, led by Dr. Frederick Eby, University of Texas, Austin, Texas Thirty minutes

Luncheon Session

Tuesday, Feb. 24, 12:15 p.m., Everglades Club, Hotel Tuller
Presiding, Louis E. Plummer, Principal, Fullerton Union High School and Junior College, Fullerton, California

Short talks by nationally known speakers

Third Session

Tuesday, Feb. 24, 2:30 p. m., Ballroom, Hotel Tuller
Presiding, Louis E. Plummer, Principal, Fullerton Union High School and Junior College, Fullerton, California

Music—Furnished by Department of Music, Detroit Public Schools, Dr. Fowler Smith, Director Twenty minutes

Theme: "Organizing and Administering Secondary Education for Purposes of Democracy"

"Organized Orientation and Guidance," F. O. Holt, Director of Bureau of Guidance, University of Wisconsin, Madison, Wisconsin Thirty minutes

"Extra-Curricular Activities—A Training for Democracy," M. Channing Wagner, Assistant Superintendent of Schools, Wilmington, Delaware Thirty minutes

"Significant Values of Non-Academic Secondary Education," Milo H. Stuart, Assistant Superintendent in charge of Secondary Education, Indianapolis, Indiana Twenty minutes

Discussion, led by John A. Larson, Principal, Senior High School, Little Rock, Arkansas Twenty minutes

Fourth Session—Junior-High-School-Section

Wednesday, Feb. 25, 9:30 a.m., Ballroom, Hotel Tuller
Presiding, F. R. Born, Principal, Webster Junior High School, Oklahoma City, Oklahoma

"Democratizing the Homeroom Program," Dr. James M. Glass, Rollins College, Winter Park, Florida

"Pupil Participation in Government in the Junior High School," Dr. E. K. Fretwell, Teachers College, Columbia University

"Interpreting the School to the Public," L. N. Morrisett, Principal, Classen High School, Oklahoma City, Oklahoma

Fourth Session—Junior-College Section

Wednesday, Feb. 25, 9:30 a.m., Blue Room, Hotel Tuller
Presiding, E. E. Oberholtzer, President, Houston Junior College, Houston, Texas

Theme: "The Public Junior College as an Agency of Democracy"
"The Curriculum as Related to the General Education Aspect," Dean W. S. Gray, School of Education, University of Chicago
Thirty minutes

"Organization and Public Relationship Aspect," Dr. Grayson N. Kefauver, Teachers College, Columbia University, New York
Thirty minutes

Discussion, led by Dean F. L. Whitney, Colorado State Teachers College, Greeley, Colorado
Thirty minutes

Fourth Session—Research Section

Committee on Organization of Investigations in Secondary Education

Wednesday, Feb. 25, 9:30 a.m., Blue Room, Hotel Tuller
Presiding, Dr. Charles H. Judd, Director, School of Education, University of Chicago

Three members reporting work and findings of committee

Fifth Session

Wednesday, Feb. 25, 2:00 p.m., Ballroom, Hotel Tuller
Presiding, Louis E. Plummer, Principal, Fullerton Union High School and Junior College, Fullerton, California

Music—Furnished by Department of Music, Detroit Public Schools, Dr. Fowler Smith, Director Twenty minutes

Theme: "Making Teaching Methods and Curriculum Serve the Best Interests of Democracy"

"Making Teaching Methods Serve the Best Interests of Democracy," Dr. John Rufi, Department of Education, University of Missouri, Columbia, Missouri Thirty minutes

"Making the High-School Curriculum Serve the Best Interests of Democracy," Arthur W. Clevenger, High School Visitor, University of Illinois, Urbana, Illinois.....Thirty minutes

"High-School Play Material," H. H. Ryan, Principal, Wisconsin High School, Madison, Wisconsin Fifteen minutes

Discussion, led by W. C. Giese, Principal, Washington Park High School, Racine, Wisconsin Twenty minutes

"Micro-Projection as a New and Practical Method of Instruction and Visualization of the Microcosm," Dr. George Rommert Thirty minutes